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ABSTRACT

The flow of capital to and through the Guaranteed Student Loan (GSL) Program and the cost of that capital to the federal government and the individual borrower were studied. A review of the research on student loan capital was conducted, and automated cost models were developed to test assumptions and project future costs. Attention was directed to federal direct and indirect program costs and to offsets to federal costs. The role of each of the following participants in the GSL program was also examined: private lenders, federal government, state direct lenders and secondary markets, state guarantee agencies, private educational institutions, Student Loan Marketing Association, and underwriters. Although the program has been successful, federal expenditures have continued to increase. Direct costs included: special allowance, federal interest subsidy, federal reinsurance, insurance, administrative cost allowance, federal advance, and penalty interest. Indirect costs (in the order of 1982 magnitude) were: federal financing costs, tax-exempt bond subsidy, and program administration and overhead. Appended materials include cost data, major cost allocation assumptions, federal cost model descriptions, and a bibliography.
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Final Report

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STUDY OF THE COST AND FLOWS OF CAPITAL IN THE GUARANTEED STUDENT LOAN PROGRAM

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Prepared By
Touche Ross & Co. 

March 1983

HE 016 096

FINAL REPORT

STUDY OF THE COST AND FLOWS OF CAPITAL
IN THE GUARANTEED STUDENT LOAN PROGRAM

THE NATIONAL COMMISSION ON STUDENT
FINANCIAL ASSISTANCE

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EXECUTIVE SUMMARY

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The objectives of this study were to identify and analyze:

1. The flow of capital to and through the Guaranteed Student Loan (GSL) Program; and
2. The cost of that capital to both (a) the federal government and (b) the individual borrower.

Our approach to this study included the review and analysis of existing research on the subject of student loan capital, as well as original data collection and analysis. In addition, several automated cost models were developed to test assumptions and project future costs. Based upon our analysis, we have developed several observations and conclusions. These observations and conclusions are divided into three areas:

- Identification of capital flows;
- Identification of federal costs; and
- Analysis of federal costs.

A. IDENTIFICATION OF CAPITAL FLOWS

1. Most of the available literature on the cost of the GSL program is short-term policy oriented. The focus is on the relationship of interest rates to current federal appropriations. The future federal cost implications of new current loan disbursements are generally not addressed.

2. The major roles of the key institutions involved in the program are as follows:
 - a. Private lenders -- primary source of capital; motivated by loan yield, security (i.e., guarantee), and community service.
 - b. Federal government -- funds the program; primary role is to pay interest subsidy and special allowance, as well as reinsure loans guaranteed by states.
 - c. State direct lenders and secondary markets -- provide capital through the issuance of tax-exempt bonds; role is to provide liquidity to the program and ensure that the full demand for student loan capital is met.
 - d. State guarantee agencies -- administer the program; primary role is to guarantee loans made by lenders.
 - e. Private educational institutions -- limited number function as direct lenders; provide limited administrative services to lenders and guarantee agencies.
 - f. Student Loan Marketing Association-- provides liquidity to the program by purchasing loans; largest owner of student loans.
 - g. Underwriters -- assist to raise public capital; receive a fee for providing this service.
3. In the early 1980's, certain trends have become evident which affect the institutional roles and responsibilities in the GSL program.
 - a. The role of the states has become predominant in program administration relative to the federal government.
 - b. The GSL program is successful. The various institutions involved have appropriate incentives to participate, but the price of the program's success is paid by ever increasing federal expenditures.

B. IDENTIFICATION OF FEDERAL COSTS

1. The GSL program imposes substantial costs on the federal government. These costs include costs directly assignable to the GSL program (i.e., direct costs) and those incurred because of the GSL program but not directly assignable to the program (i.e., indirect costs).
2. The direct costs (in order of FY 82 magnitude) are:
 - a. Special allowance;
 - b. Federal interest subsidy;
 - c. Federal reinsurance;
 - d. FISL insurance;
 - e. Administrative cost allowance;
 - f. Federal advances; and
 - g. Penalty interest.
3. The indirect costs (in order of FY 82 magnitude) are:
 - a. Federal financing costs;
 - b. Tax-exempt bond subsidy; and
 - c. Program administration and overhead.
4. Receipts from the GSL program which offset costs include: (in order of FY 82 magnitude)
 - a. Origination fees;
 - b. Collections on defaulted loans;
 - c. Special allowance reduction in loans financed with tax-exempt bonds; and
 - d. FISL insurance premiums.

C. ANALYSIS OF FEDERAL COSTS

1. The federal government has committed itself to a significant stream of future payments as a result of the \$6.2 billion of new GSL loans disbursed in FY 82.
2. The cumulative future payments for the new FY 82 GSL loans are estimated to be \$2.9 to \$3.6 billion (unadjusted for the time value of money). This is equivalent to 47¢ to 59¢ of each dollar loaned. In other words, approximately \$2 of capital is generated for every \$1 of federal cost.
3. The most significant components of the payment stream are: (1) the special allowance and (2) the in-school subsidy. These two combined amount to between 72% and 77% of the total program outlays.
4. The next most significant cost component is reinsurance (16% to 19% of total payments). All other direct and indirect costs only account for 7% to 9% of the total program outlays.
5. While there are revenues to offset payments (e.g., collections, etc.), these offsets are not particularly significant (i.e., the cumulative total of all offsets equals approximately 15% of total program outlays).
6. The most significant unknowns affecting future payments are: (a) interest rates (i.e., Treasury bill rates) and (b) the average loan lives in the portfolio. These factors have a major impact on special allowance and interest subsidy respectively.
7. The future federal costs of the GSL program must be adjusted for inflation to estimate real costs (i.e., expressed in current dollars). The effect of inflation is to reduce the real cost of the FY 82 loans to between \$2.6 billion and \$2.7 billion. This is equivalent to 42¢ to 44¢ for each dollar loaned. This provides a real multiplier of 2.3 - 2.4:1 (i.e., for every dollar of real federal cost, \$2.30 to \$2.40 of loans are made available).

8. Because a loan program provides leverage (i.e., more than one dollar of capital is generated for each federal dollar spent), it delivers more capital to students than would a grant program. There is no doubt the GSL program provides more total student loan capital than would a grant program with equal annual outlays. However, this advantage can be overstated when only the current year is examined. The true multiplier effect in real terms and when all future obligations are taken into account is approximately 2:1.
9. The GSL program provides a significant capability to provide capital now and pay later. Both the borrower and the federal government assume an obligation for future payments.

Exhibits to Section I

Exhibit I-1

SOURCES CONTACTED

1. American Council on Education
2. Congressional Research Service
3. Educational Testing Service
4. Illinois Independent Higher Education Loan Authority
5. Minnesota Higher Education Coordinating Board
6. National Association of Student Financial Aid Administrators
7. National Council of Higher Education Loan Programs
8. National Student Aid Coalition
9. Office of Management and Budget (OMB)
10. Student Loan Marketing Association (Sallie Mae)
11. U.S. Congressional Budget Office
12. U.S. Department of Education
13. Utah Education Loan Services, Inc.
14. Wachovia Educational Services
15. Wisconsin Higher Education Corporation

I. OBJECTIVES AND APPROACH

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A. OBJECTIVES

The objectives of the study were to identify and analyze:

1. The flow of capital to and through the Guaranteed Student Loan (GSL) Program; and
2. The cost of that capital to both (a) the federal government and (b) the individual borrower.

The study included the review and analysis of existing research on the subject of student loan capital, as well as original data collection and analysis. Several automated cost models were developed to test assumptions and project future costs.

B. APPROACH

The study had two phases. The first phase concentrated on the flow of capital while the second phase analyzed the cost of capital. The second phase considered both the costs to the federal government and to the borrower. However, this document covers only the federal costs. The results of the analysis of borrower costs were delivered under separate cover to the Commission and is essentially a stand-alone study.

The activities from each phase are discussed below.

1. Phase I: Identification of Capital Flows.

The objective of Phase I was to assist the Commission to answer two key questions:

- What are the sources of capital for the GSL program?
- What are the roles and relationships of major institutions involved in the GSL program?

To answer these questions we performed the following activities:

- Reviewed the major sources of research literature on the subject of student loan capital;
- Organized, summarized, and analyzed the research literature; and
- Interviewed representatives of major institutions and organizations represented on the demand and supply sides of the student loan capital market.

The results of Phase I are presented in Section II, Identification of Capital Flows. Appendix C contains a bibliography.

2. Phase II: Identification of Real Program Costs

The objective of Phase II was to assist the Commission to answer two additional questions:

- What are the categories of federal costs which are incurred to raise capital and service loans under the GSL program?
- What are the magnitude of federal costs expected for loans made in a selected year?

To answer these questions we performed the following five activities:

a. Interviewed staff at the U.S. Department of Education (ED).

We interviewed staff at ED in order to gather relevant operating statistics and actual cost data for fiscal year 1982 (FY 82). Most of the individuals that we interviewed were within the Office of Student Financial Assistance, Division of Policy and Program Development, or the Division of Program Operations. To acquire additional information, we also interviewed individuals in the Office of Student Financial Assistance, Administrative Office, the Office of Management, Financial Management Services Division, and the Special Assistant to the Deputy Assistant Secretary within the Office of Student Financial Assistance. During these interviews we gathered operating statistics and actual cost data for FY 82. We worked with ED fiscal staff to develop a methodology for allocating indirect program costs to the FY 82 loan portfolio.

b. Collected operating data at ED on the GSL program.

The objective of the data collection was to develop certain quantitative factors necessary to analyze the costs of student loan capital. Data sources included: (a) Guarantee Agency Quarterly Reports; (b) Lender's Request for Payment of Interest and Special Allowance; (c) Lender's Request for Reinsurance; and (d) miscellaneous internal ED reports.

c. Interviewed representatives of other organizations participating in the GSL program.

We interviewed individuals in other organizations that participate in the GSL program. These organizations included: guarantee agencies; loan servicers; the Student Loan Marketing Association (SLMA); and state secondary markets. The purpose of these interviews was to obtain operating data that was not available at ED such as: the average life of the loan; the percentage of defaults that are ultimately collected; and the distribution of collections over the life of the loan. Exhibit I-1, Sources Contacted, shows the organizations whose representatives were interviewed.

d. Developed automated models to compute federal program costs.

We used a financial software package to develop several automated models that calculate the total federal program costs of the FY 82 guaranteed student loan portfolio over the expected life of the portfolio. We calculated total federal costs using four primary models: a 7% model; a 9% model; a 14% model; and a total cost model. These models contain actual and projected costs of the FY 82 loan portfolio. These costs include both direct and indirect program costs.

e. Calculated federal program costs under several different scenarios.

Total federal program costs were calculated under several different scenarios. The objective was to test the sensitivity of the costs to changes in such key assumptions as: future Treasury bill rates; long-term inflation rates; and the average life of a loan portfolio. Based on the sensitivity analysis, we developed a range of expected federal costs of the FY 82 loan portfolio.

* * * * *

The results of Phase II are presented in Sections III, IV, and V of this report. Our major assumptions are discussed in detail in Appendix A. Detailed descriptions of the federal cost models are presented in Appendix B. A bibliography is presented in Appendix C. All exhibits are at the end of the sections.

II. IDENTIFICATION OF CAPITAL FLOWS

II. IDENTIFICATION OF CAPITAL FLOWS

A large amount of literature on the GSL program is available. However, most of it is short-term policy oriented. Literature which does discuss costs focuses on current federal appropriations, rather than costs over the life of a portfolio of loans issued in any given fiscal year. Consequently, the implications of future federal cost obligations for new current loan disbursements are generally not addressed.

The bibliography of sources used in this study is presented in Appendix C. All of the sources reviewed were published in the last five years.

The objectives of the literature review were to identify:

- The scope of the topics in the literature; and
- The roles and relationships of the institutions involved in the GSL program.

In addition to reviewing available literature, we conducted interviews with representatives of major institutions and organizations involved on the demand and supply sides of the student loan capital market. This section of the report presents an overview of the sources of capital for the GSL program and the roles and relationships of major institutions involved in the GSL program.

A. INSTITUTIONAL ROLES

There are a number of participants in the GSL program. A summary explanation of the role of each of these institutions is presented below.

1. Private Lenders

The predominant source of capital for the GSL program is private lenders (primarily commercial banks, savings and loan institutions, and credit unions). The reasons that these institutions participate in the GSL program vary from institution to institution and from state to state. However, the major factors affecting participation appear to be:*

- a. The return to the lender on the GSL portfolio;
- b. The security of the loans due to state guarantees and federal reinsurance; and
- c. A perceived obligation to provide service to the community.

* For a recent analysis of the factors affecting the supply of a student loan capital in a given state, see Review and Analysis of Student Loan Market Conditions prepared for the Minnesota Higher Education Coordinating Board by Touche Ross & Co. (January 1983). This report also contains a bibliography of sources on the demand and supply of student loan capital.

The gross income to the lender on the portfolio consists of: (a) interest (9% on new loans) paid by the federal government while the borrower is in school and by the borrower after graduation and (b) a "special allowance" paid by the federal government over the life of the loan to adjust the yield to the then current cost of funds.*

Exhibit II-1 presents a schematic showing who pays what over the life of a student loan.

2. Federal Government

The federal government became actively involved with the GSL program after passage of the Higher Education Act of 1965. Title IV of the Act established a national program of guaranteed student loans. The role of the federal government was to reinsure loans guaranteed by states or by private nonprofit corporations. Initially, the primary responsibility for the administration of the program was to be a state rather than a federal responsibility.

* The PLUS program for parents and graduate students differs in that the federal subsidy is substantially reduced. PLUS loans enter repayment immediately and have a higher interest rate (12%).

In 1967, amendments to the Higher Education Act redirected part of the responsibility for the program to the federal government. The 1967 amendments enabled the Federal government to directly insure loans made by lenders in states without a state guarantee agency. Today, the Federally Insured Student Loan (FISL) Program, has a very small volume (4% of FY 82 loans guaranteed) compared to the volume of loans guaranteed by states.

The original objective of the GSL program was to match the demands for capital from students with the supply of capital available from private lenders. Until very recently, the history of the program reflected a series of statutory changes designed to increase access to the program and/or ensure that lender incentives were sufficient to generate the supply of capital necessary to meet the demand of eligible borrowers.*

* For additional detail on the federal role in the GSL program and a discussion on the statutory changes in the program since 1965, see Historical Overview of the Role of State Guarantee Agencies in the Guaranteed Student Loan Program (August 1982) which was prepared by Touche Ross & Co. for the National Commission on Student Financial Assistance. Also see Guaranteed Student Loans; Issue Brief Number IB82091 prepared by David Osman and published by the Congressional Research Service.

3. State Direct Lenders and Secondary Markets

State governments (acting through a state agency or designated non-profit corporation) provide capital for the GSL program through the issuance of tax-exempt bonds. These proceeds may be used for secondary market activities (purchasing student loans from private lenders) which indirectly provide capital by providing liquidity to private lenders so they can make new GSL loans.

The proceeds may also be used to make direct loans to students. Direct lending programs supplement private lenders as a source of capital in states where private lenders cannot or will not meet the full demand for student loan capital. Exhibit II-2 provides a listing of state direct lenders and secondary markets.

Tax-exempt funding for student loans is financially attractive to states because they borrow at the lower tax-exempt rates and make or buy student loans that provide a substantially higher (federally subsidized) yield. Congress reduced this potential for federally subsidized profits in 1980 through a reduction in special allowance payments for loans financed using the proceeds from tax-exempt bonds.

4. State Guarantee Agencies

Title IV of the Higher Education Act of 1965 established the role of the federal government in a program of guaranteed loans to students. Specifically, the federal government was to reinsure loans initially guaranteed by states or by state-established private non-profit organizations. Insurance premiums (charged to borrowers at the time of the initial loan) provide (a) operating funds for guarantee agencies and (b) reserves against default. The federal government provides a number of incentives to encourage the participation of state guarantee agencies in the program. These incentives include a subsidy for a portion of administrative costs incurred by guarantee agencies and the provision of federal advances to be used by guarantee agencies to strengthen their reserves and to pay claims. These incentives appear to have proved effective in that, by FY 82, all 50 states, Puerto Rico, the District of Columbia, and the Virgin Islands established guarantee agencies.

The role of the guarantee agencies has evolved over time. Although there is much diversity among the states, the traditional functions of guarantee agencies continue to include the following:

- Program administration;
- Loan approval processing;
- Student status verification;
- Loan record maintenance;
- Preclaims assistance;
- Claims processing;
- Collection;
- Regulation and compliance;
- Lender promotion; and
- School and student liaison activities.

In addition, certain larger agencies with substantial data processing support capabilities provide interest billing or complete loan servicing for lenders.

5. Private Educational Institutions

A limited number of private educational institutions currently participate as lenders in the GSL program. Generally, the institutions function as direct lenders in much the same fashion as a commercial lender. Funds from their own resources are loaned to their students. Interest subsidies and special allowance payments are collected from the federal government while the borrower is in school. After graduation, the

institution continues to receive the special allowance while the borrower is in repayment.

Educational institutions also participate in the program by providing lenders and guarantee agencies with verification of borrowers' enrollment status. In some states the educational institution is responsible for disbursing the proceeds of the student loan to the student borrower.

6. Student Loan Marketing Association ("Sallie Mae")

Sallie Mae is a private corporation created by the federal government in 1972 primarily to serve as a secondary market for student loans. Sallie Mae allows lenders to sell, or borrow against, their student loan portfolios. Additionally, in states where the Secretary of Education determines that loan availability is insufficient to cover demand, Sallie Mae can provide funds directly and thereby act as a lender of last resort.

7. Underwriters

Bond underwriters provide a mechanism to raise capital for the GSL program by underwriting the tax-exempt bonds issued by state agencies or

designated non-profit corporations. Underwriters receive a fee, usually expressed as a percentage of the proceeds of the bond issue, for providing this service to their clients. This fee usually ranges from 1 1/2% to over 3% of the proceeds of the bond issue. Approximately \$1.9 billion in student loan bonds were outstanding at the end of FY 82.*

8. Borrowers

Borrowers also provide funds for the GSL program. An insurance premium against default, typically 1% of principal per annum for the in-school and grace periods, is charged to the borrower at the time the loan is made. This fee may be used to cover program operating costs, as well as build reserves against defaults.

A loan origination fee of 5% is also charged which may be deducted from the loan proceeds (i.e., reduces the amount actually disbursed to the borrower). Funds generated through the collection of origination fees are used to offset federal interest subsidy and special allowance costs.

* Source: U.S. Department of Education, Office of Student Financial Assistance

B. FLOW OF CAPITAL

The flow of capital among the participants in the GSL program is affected by such factors as: return, security, and liquidity. These factors are discussed below.

1. How Capital Flows

Public (i.e., state agencies or designated non-profit corporations) and private sector lenders provide loans to borrowers, so that borrowers can finance their post-secondary education. The primary source of loan capital for private sector lenders comes from savings by personal and business savers. Public sector lenders, on the other hand, generally receive their funds from the sale of tax-exempt bonds.

Exhibit II-3 presents a graphical description of these flows. As shown on Exhibit II-4, commercial lenders provide in excess of 90% of the capital for the GSL program.

2. Why Capital Flows

Lenders are motivated to participate in the GSL program for two primary reasons:*

* Some lenders are also motivated by an obligation to serve their community.

- (a) To obtain a return on their investment; and
- (b) Because their investment is protected by the loan insurance and as a result is subject to very little risk.

Exhibit II-5 presents a graphical portrayal of what major sources of funds each institutional participant in the program receives. These include the following:

- Personal and business savers receive interest from private and public sector lenders as a return on their investment.
- Lenders (private sector and public sector) receive loan origination fees, interest and special allowance in return for providing capital to borrowers.
- Guarantee agencies receive administrative cost allowance and insurance premiums to cover their administrative costs and to establish reserves against defaults.
- Underwriters receive fees for their services provided in placing public sector bond offerings.

Exhibit II-6 shows how borrower loan insurance flows in the event of default, death, bankruptcy, or disability. The ultimate sources of funds to pay loan insurance are (a) the federal Treasury or (b) reserves established with borrower insurance premiums.

3. How Liquidity Is Maintained

Liquidity* is maintained in the guaranteed student loan program as a result of:

- Repayment of principal by borrowers;
- Replacement of principal by loan insurers in the event of default, death, disability or bankruptcy; and
- Purchase of loans by Sallie Mae and other secondary markets.

Exhibit II-7 presents a description of these flows.

C. CHANGING INSTITUTIONAL ROLES AND RESPONSIBILITIES

There are certain trends evident which affect institutional roles and responsibilities in the GSL program. The major trends are the following:

* For purposes of this analysis, liquidity is defined as the means by which lenders receive back the original capital loaned (i.e., the principal).

1. The role of states has become predominant in program administration relative to the federal government.

At the time of the 1976 Amendments, 25 states and the District of Columbia had established guarantee agencies. Many were in operation before the GSL program was established. Today, all states, Puerto Rico, and the Virgin Islands have a state guarantee agency (which may be a private, non-profit corporation designated by the state).

The 1976 initiative to create guarantee agencies in all states and territories and to shift the administration of the GSL program operations to those agencies appears to have been largely successful. In 1976, Federally Insured Student Loans comprised 40 percent of the total guaranteed student loan volume. In 1982, they only comprised 4 percent of the total volume.

Initially, guarantee agencies provided basic program administrative functions such as: loan approval processing; claims processing; and defaulted loan collections. As federal operating funds* began to be paid, agencies expanded the

* Federal funds for agency operations are primarily provided through the Administrative Cost Allowance which is equal to one percent of new loans guaranteed.

scope of their services to lenders (e.g., through interest billing, loan servicing, lender training, and secondary markets), to borrowers (e.g., through direct lending or lender of last resort programs), and to schools (e.g., borrower status verification). These agencies also began to aggressively promote the program. The result was improved program administration just at the time both the demand for, and the supply of, loan capital was to increase drastically.

The guarantee agencies administered the major part of the almost 500% increase in annual GSL program loan volumes in the first five years after the Amendments of 1976 were passed. In terms of program administration, the guarantee agencies are the single most important element in the highly complex GSL program. The federal government funds the program, but the guarantee agencies administer it.

2. The GSL program is successful. The various institutions involved have appropriate incentives to participate, but the price of the program's success is paid by ever increasing federal expenditures.

The Guaranteed Student Loan Program is a success. Annual loan volume in the GSL program has grown from slightly over \$1 billion per year in the

early 70's to over \$6 billion per year in the early 80's. As long as in-school subsidies are provided by the federal government and the interest rate on student loans remains below market rates, it is to the student's advantage to borrow as much as possible as early as possible.*

The rapid growth in the GSL program was caused, in part, by a number of incentives created by the federal government to increase lender, state and borrower participation in the program. These incentives included:

- The appropriation of federal funds to be advanced to states to use as reserve funds to pay defaults;
- The provision of a special allowance that is linked to quarterly changes in the 91-day Treasury bill rates in order to increase the yield to lenders participating in the program;
- The creation of the Student Loan Marketing Association (SLMA) in order to allow lenders to sell or borrow against all or part of their student loan portfolio;
- The provision of 100% federal reinsurance for state guarantee agencies;

* For a more detailed discussion of borrower costs, refer to Cost to Borrowers of Participating in the Guaranteed Student Loan Program (February 1983) prepared by Touche Ross & Co. for the National Commission on Student Financial Assistance.

- The provision of an administrative cost allowance of up to one percent of all loans guaranteed to be used for agency operating costs;
- The decision to allow the state guarantee agencies to retain up to 30% of the amounts recovered on loans in default; and
- The decision to raise the income ceiling for interest subsidy from \$15,000 to \$25,000 in 1976 and to eliminate the ceiling completely in 1978 in order to expand program access for higher income borrowers.

The creation of these incentives resulted in significant increases in current and future period federal program costs. Unlike a grant program, where current period appropriations are used to pay for current period student financial assistance, the guaranteed student loan program allows the federal government to leverage its assistance by supporting current period student financial assistance with future period dollars. This leverage is a primary feature of the GSL program.

However, because a major portion of federal expenditures for the GSL program are used to cover commitments on loans made in past years, it is extremely difficult to reduce program costs in the short term.* Furthermore, because special

* Approximately 92% of FY 83 federal program expenditures will be for loans made in prior years. See Impact of GSL Changes on Fiscal Year 1983 Program Costs, American Council on Education.

allowance costs are sensitive to future changes in Treasury bill rates, a major component of federal program costs is uncontrollable.

In 1980, the trends of increasing federal program costs became apparent. Congress in the Education Amendments of 1980, sought to curb this increase. The emphasis was on (a) reducing loan demand and (b) shifting costs from the federal government. No attempt was made to affect capital supply by, for example, reducing lender yields.

Congress raised the interest rate from seven to nine percent and shortened the grace period between graduation and the start of repayment from nine to six months. Congress also reduced by one-half the special allowance rates paid to state agencies which issued tax-exempt revenue bonds to provide funding for the GSL program. Student annual and cumulative borrowing limits were raised, however, which tended to increase program costs. The creation of the parent loan program (PLUS) which allowed parents of dependent undergraduate students to borrow at higher unsubsidized rates allowed a new category of borrowers to be eligible for guaranteed loans.

In 1981, costs were still accelerating and further cost reduction opportunities were sought. The interest cost to parent borrowers was raised from 9 to 14 percent. This reduced the required special allowance payments in the PLUS loan program.

In 1981, Congress also authorized a 5 percent origination fee that was to be deducted from the loan proceeds disbursed to the borrower. The loan origination fee was to represent a prepaid finance charge by the borrower. This fee is used to offset federal interest subsidy and special allowance expenditures.

Despite efforts to reduce cost, high costs will probably continue for some time for the GSL program. The reason is that many costs are already committed. This is primarily due to the long term nature of student loans. For example, many loans guaranteed in FY 82 will still require federal special allowance payments more than ten years later.

D. SUMMARY OF MAJOR OBSERVATIONS: IDENTIFICATION OF CAPITAL FLOWS

Based on our review of the literature and knowledge of the student loan industry, the following major observations are warranted:

1. Most of the available literature on the cost of the GSL program is short-term policy oriented. The focus is on the relationship of interest rates to current federal appropriations. The future federal cost implications of new current loan disbursements are generally not addressed.
2. The major roles of the key institutions involved in the program are as follows:
 - a. Private lenders -- primary source of capital; motivated by loan yield, security (i.e., guarantee), and community service.
 - b. Federal government -- funds the program; primary role is to pay interest subsidy and special allowance, as well as reinsure loans guaranteed by states.
 - c. State direct lenders and secondary markets -- provide capital through the issuance of tax-exempt bonds; role is to provide liquidity to the program and ensure that the full demand for student loan capital is met.
 - d. State guarantee agencies -- administer the program; primary role is to guarantee loans made by lenders.

- e. Private educational institutions -- limited number function as direct lenders; provide limited administrative services to lenders and guarantee agencies.
 - f. Student Loan Marketing Association -- provides liquidity to the program by purchasing loans; largest owner of student loans.
 - g. Underwriters -- assist to raise public capital; receive a fee for providing this service.
3. In the early 1980's certain trends have become evident which affect the institutional roles and responsibilities in the GSL program:
- a. The role of the states has become predominant in program administration relative to the federal government.
 - b. The GSL program is successful. The various institutions involved have appropriate incentives to participate, but the price of the program's success is paid by ever increasing federal expenditures.

Exhibits from Section II

Exhibit II-1

PAYMENT OF PRINCIPAL AND INTEREST ON STUDENT LOANS

	PHASE OF LOAN LIFE		
	<u>School</u>	<u>Grace</u>	<u>Repayment</u>
PRINCIPAL	Not Paid	Not Paid	Student Repays
INTEREST (9%)	Federal Government Pays	Federal Government Pays	Student Pays
SPECIAL ALLOWANCE	Federal Government Pays	Federal Government Pays	Federal Government Pays

Exhibit II-2

STATE DIRECT LENDERS AND SECONDARY MARKETS

<u>State</u>	<u>Direct Lending Provided^{a/}</u>	<u>Secondary Market Supported^{a/}</u>	<u>Total GSLP Loans Outstanding by Tax-Exempt Authori- ties (in mil- lions of \$)^{b/}</u>
Alaska		X	
Arkansas	X	X	\$12.0
California	X	X	
Colorado	X	X	30.0
Connecticut	X	X	
District of Columbia	X		52.1
Georgia	X	X	
Idaho		X	17.2
Illinois		X	42.7
Indiana		X	36.6
Iowa		X	31.8
Kansas		X	41.7
Kentucky		X	123.0
Louisiana	X	X	
Michigan	X		146.8
Minnesota	X		208.3
Montana		X	

a/ Source: 1982 GSLP State Agency Survey by the National Council of Higher Education Programs.

b/ Source: U.S. Department of Education, Office of Student Financial Assistance.

Exhibit II-2 (continued)

STATE DIRECT LENDERS AND SECONDARY MARKETS

<u>State</u>	<u>Direct Lending Provided^{a/}</u>	<u>Secondary Market Supported^{a/}</u>	<u>Total GSLP Loans Outstanding by Tax-Exempt Authori- ties (in mil- lions of \$)^{b/}</u>
Nebraska	X	X	\$75.7
New Jersey	X		
New Mexico	X		62.7
North Carolina	X		138.8
North Dakota	X	X	91.3
Oklahoma	X		42.0
Rhode Island		X	3.2
South Carolina	X		32.4
South Dakota		X	98.9
Texas	X	X	189.9
Utah	X	X	29.9
Virginia	X	X	289.8
West Virginia	X		2.9
Wisconsin	X		128.1
Wyoming	X	X	5.8
TOTAL			<u>\$1934.2</u>

a/ Source: 1982 GSLP State Agency Survey by the National Council of Higher Education Programs.

b/ Source: U.S. Department of Education, Office of Student Financial Assistance.

Exhibit II-3

HOW CAPITAL FLOWS

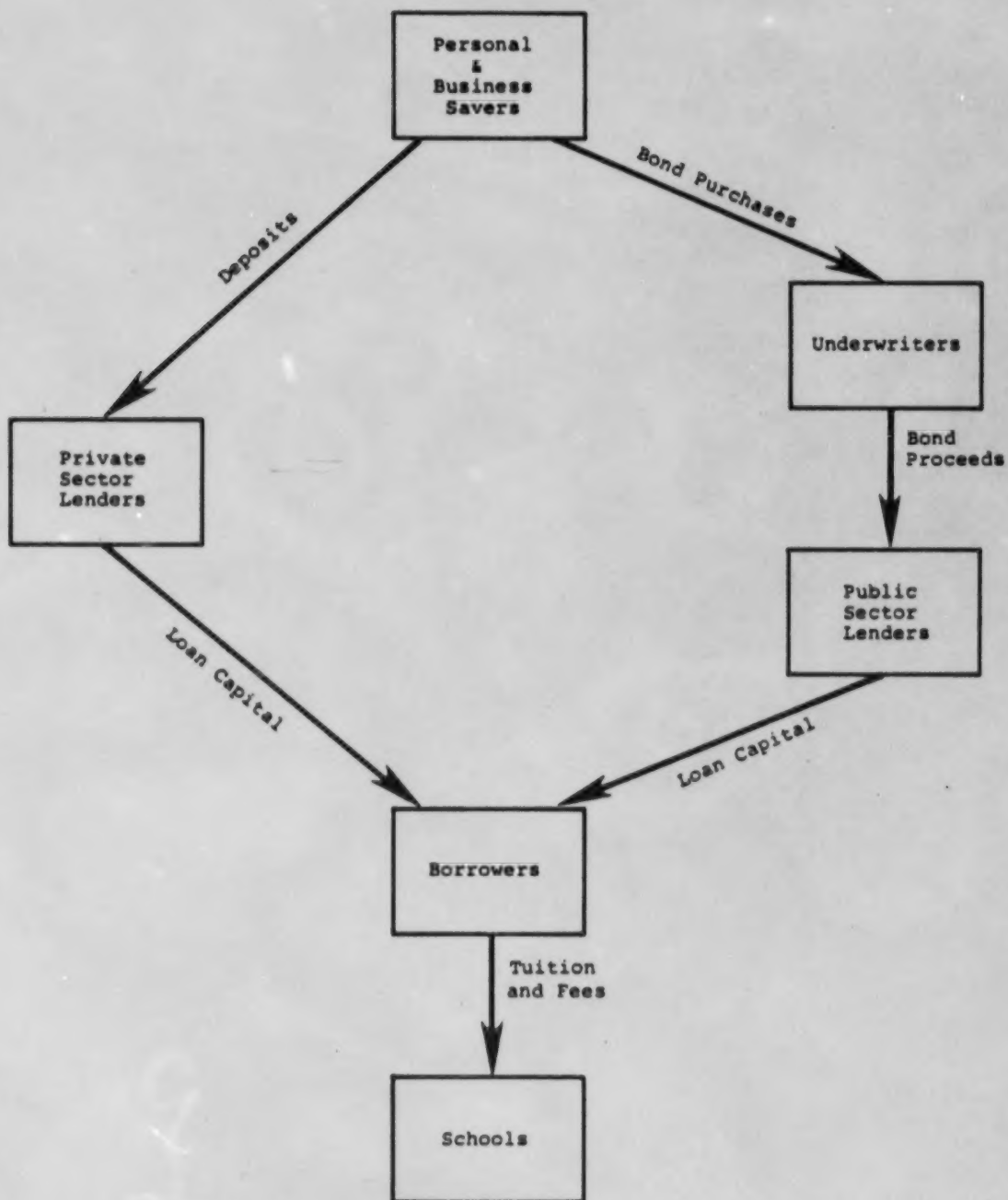


Exhibit II-4

LOAN VOLUME BY LENDER TYPE

	FY 79		FY 82	
	<u>millions \$</u>	<u>%</u>	<u>millions \$</u>	<u>%</u>
Commercial Lenders	\$ 2,715	91	\$5,828	94
Direct State Lenders	239	8	310	5
Schools and Other	<u>30</u>	<u>1</u>	<u>62</u>	<u>1</u>
	<u>\$2,984</u>	<u>100%</u>	<u>\$6,200</u>	<u>100%</u>

Sources: FY 1980 Annual Report on Loan Volume/Default Claims Paid by Lender Type, Guaranteed Student Loan Program, Office of Student Financial Assistance, U.S. Department of Education.
Guarantee Agency Quarterly Reports (9/30/82).

Exhibit II-5

WHY CAPITAL FLOWS (RETURN TO CAPITAL PROVIDERS)

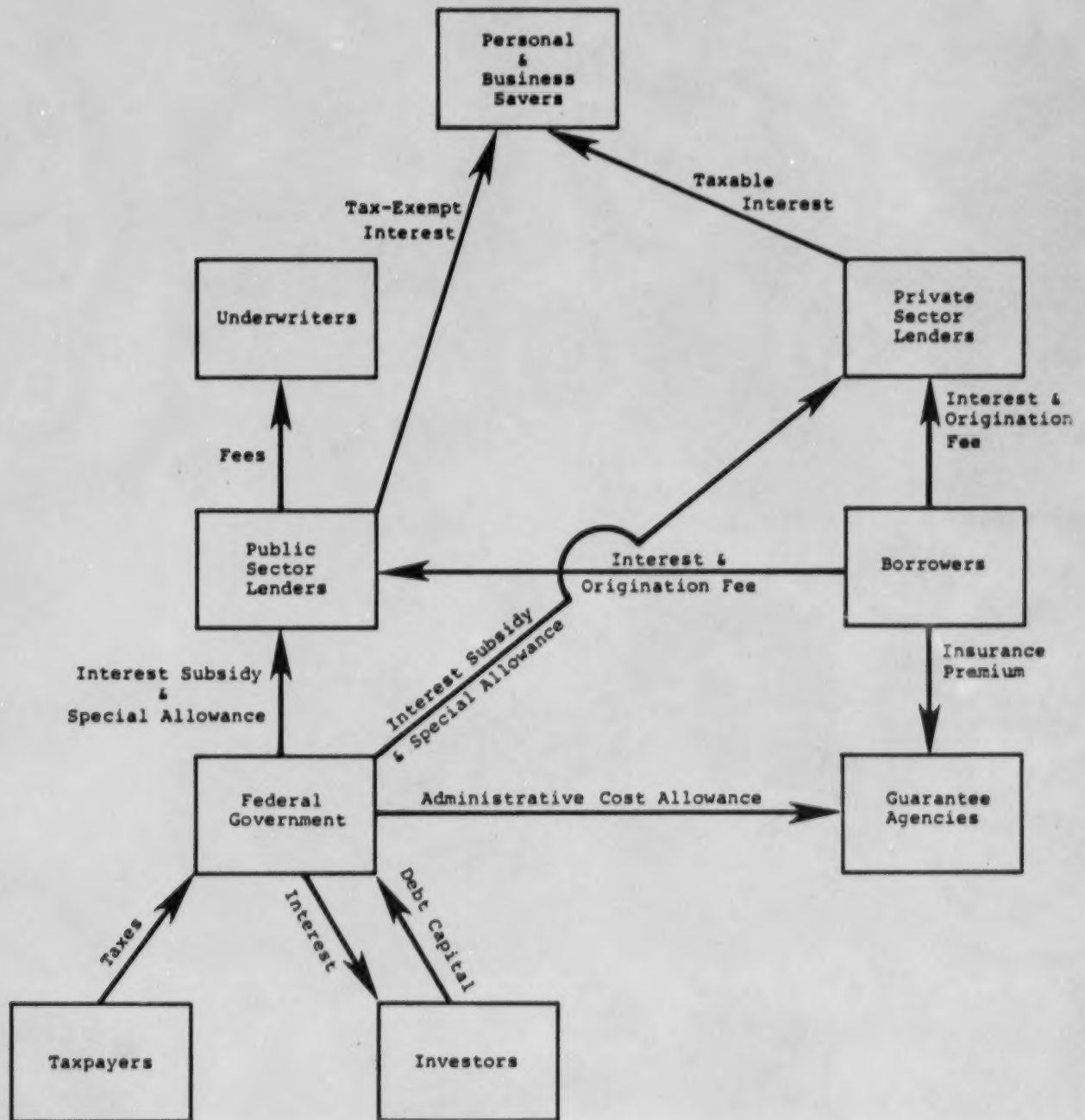


Exhibit II-6

WHY CAPITAL FLOWS (LOAN SECURITY)

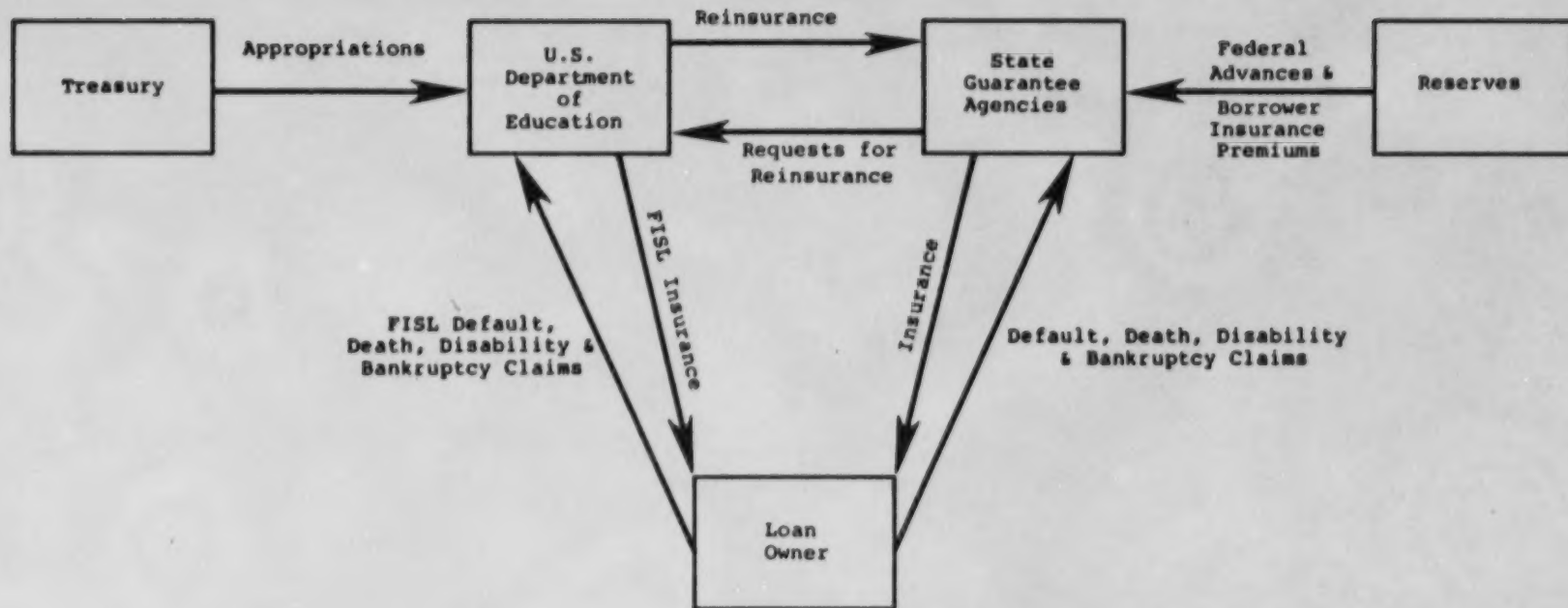
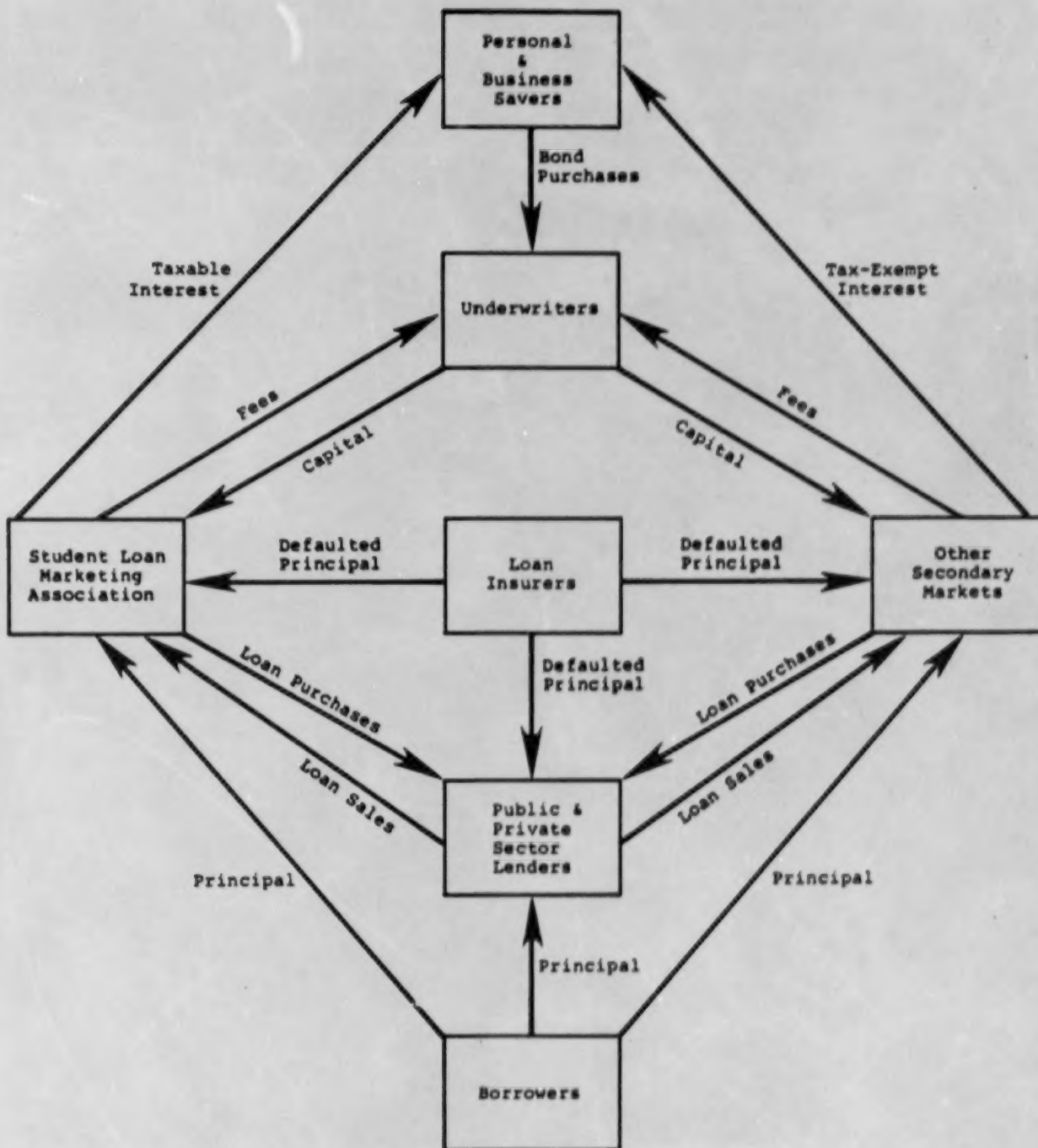


Exhibit II-7

HOW LIQUIDITY IS MAINTAINED



III. IDENTIFICATION OF FEDERAL COSTS

III. IDENTIFICATION OF FEDERAL COSTS

The federal government will incur a variety of costs during the life of a loan portfolio. The components of federal cost may vary depending on the year in which the loans were made and the federal regulations in effect at that time.

A. FEDERAL DIRECT COSTS

The total federal cost associated with the FY 82 portfolio of loans is comprised of both direct and indirect cost components. These direct program costs are discussed immediately below while indirect costs are addressed in another portion of this section. Exhibit III-1 shows the FY 82 direct costs by cost category.

1. Federal Interest Subsidy

The federal government pays the interest that accrues on eligible guaranteed student loans during the in-school, grace, and deferment periods of the loan. The interest is paid to participating lenders on behalf of the borrowers. In FY 82 all new guaranteed student loans and federally-insured

student loans (FISL) were eligible to receive federal interest subsidy. Loans to parents and graduate students made under the PLUS program do not qualify for the federal interest subsidy.

2. Special Allowance

The Special Cost Allowance was authorized by the Emergency Insured Student Loan Act of 1969. The purpose of the allowance is to provide a yield on guaranteed student loans which would more closely approximate the interest a lender could earn on its commercial loan portfolio.

The special allowance is a payment made by the federal government to holders of eligible outstanding guaranteed student loans based on a percentage of the average outstanding unpaid principal balance. The current formula for calculating the allowance is:

(Net Principal Balance) x (Quarterly Special Allowance Rate) where the Special Allowance rate is equal to the average bond equivalent rate of the 91-day Treasury bills auctioned during the last quarter minus 5.5% (for 9% loans) or 3.5% (for 7% loans).

This rate is then divided by four to obtain the Quarterly Special allowance rate.

3. Penalty Interest

Whenever the federal government takes more than 30 days after receipt of an accurate and complete request for payment of federal interest subsidy and special allowance, the lender is eligible to receive penalty interest from the federal government. The penalty interest is equal to the daily interest that accrues on the special allowance and interest subsidy payments due to the lender.

4. Federal Reinsurance

The federal government provides reinsurance for loans guaranteed by guarantee agencies, whereby the Secretary of Education will reimburse a percentage of the principal amount of the losses incurred by the agencies. In most cases, guarantee agencies are qualified to receive 100 percent reinsurance. Occasionally, a guarantee agency's default rate will cause them to hit a "trigger"

which causes the reinsurance rate to drop to 90 or 80 percent for the remainder of the fiscal year.*

5. Federal Insurance

The federal government provides insurance for FISL loans, whereby the Secretary of Education will reimburse to lenders the principal amount of the losses incurred by the lenders. In almost all cases, lenders are qualified to receive 100% insurance.**

6. Administrative Cost Allowance

The federal government pays an administrative cost allowance (ACA) to guarantee agencies at the rate of 1/2 percent of the principal amount of loans guaranteed during the fiscal year for the primary ACA and an additional 1/2 percent for the secondary ACA. All agencies are currently receiving the primary ACA. All but eight agencies also receive the secondary ACA.

* In FY 82 only two agencies hit the trigger.

** State lenders may receive less than 100% insurance. If a State lender's default rate causes them to hit a "trigger," their insurance rate will drop to 90 or 80 percent for the remainder of the fiscal year.

The purpose of the administrative cost allowance is to cover a portion of the guarantee agency's administrative costs. Eligible costs include:

- Administrative costs of providing preclaims assistance;
- Costs incurred for collections;
- Costs incurred in monitoring the enrollment and repayment status of students;
- Costs incurred for commercial lender promotion; and
- Other administrative costs related to the student loan insurance program.

7. Federal Advances

Federal fund advances to guarantee agencies were authorized in 1965 and 1968 to help establish or strengthen the reserve fund that backs each agency's loan guarantees. In 1976, additional federal advances were authorized as an incentive for states without guarantee agencies to create such agencies.*

The advance funds authorized in 1965 and 1968 are subject to recall by the federal government if

* Agencies in existence prior to the Education Amendments of 1976 also received the new advance funds.

the Secretary of Education finds that the funds advanced to the agency are no longer required for the agency to maintain an adequate reserve position. The federal advances authorized in 1976 are repayable to the federal government when the total dollar amount advanced exceeds 20 percent of the guarantee agency's outstanding insurance obligation.

B. FEDERAL INDIRECT COSTS

The federal indirect costs are described below. Exhibit III-2 shows the FY 82 indirect costs by cost category.

1. Program Administration and Overhead

Program administration and overhead costs include all other costs incurred by ED that are related to the GSL program, including costs that support multiple ED programs. A portion of these costs can be allocated to the GSL program. Program administration and overhead costs include:

- Salaries and benefits;
- Operating expenses such as FISL collection costs, computer contracts, data processing support, printing costs, and travel time; and

III - 7

- Overhead expenses such as rent, utilities and telecommunications.

FY 82 program administration and overhead costs are presented in Exhibit III-3.

2. Tax-Exempt Bond Subsidy

State authorities and state-authorized nonprofit corporations have issued student loan bonds in order to make student loans or purchase student loans from lenders (so that the lenders may make additional student loans). The interest on the student loan bonds is exempt from federal income taxation. The federal revenue loss stemming from the tax-exemption of interest on the bonds is an indirect federal cost associated with these bonds.

3. Federal Borrowing Costs

In effect, the National Debt finances a portion of the direct appropriated federal cost of the GSL program. Therefore, the cost of financing GSL expenditures which are not paid from current receipts can be considered an indirect federal program cost.

C. OFFSETS TO FEDERAL COSTS

Federal costs are offset, in part, by certain items. These items are discussed below and shown on Exhibit III-4 for FY 82.

1. Collections

Collections on defaulted loans fall into two categories: (a) collections by the federal government on defaulted FISL loans and (b) collections by guarantee agencies on defaulted GSL loans -- a portion of which is remitted to the federal government. Collections act as offsets to the federal insurance (FISL) and reinsurance (state agency) costs.

2. Origination Fee

This fee is withheld by the lender from the loan proceeds and is used as an offset to the federal interest subsidy and special allowance due from the federal government for the period.

3. FISL Insurance Premium

The FISL insurance premium is a fee charged to the lender for each FISL loan that is insured. Lenders are authorized to pass the cost of the insurance premium to the borrower in the form of a one-time charge. The FISL insurance premium helps to offset the cost of defaults on FISL loans. The current FISL premium is equal to one quarter of one percent of the loan principal outstanding over the period beginning one month following the month that funds are disbursed to the borrower and ending 6 months after the borrower's anticipated graduation date.

4. Special Allowance Offset

The federal government limits the special allowance payments on loans that were financed using the proceeds from tax-exempt student loan bonds. The authorized special allowance rate on these loans is one-half of the normally applicable rate each period. This reduction in special allowance payments helps to offset the federal revenue loss stemming from the tax-exemption of interest on student loan bonds.

* * * * *

Exhibit III-5 presents a summary of the total direct and indirect costs and offsets to costs for FY 82.

D. SUMMARY OF MAJOR OBSERVATIONS: IDENTIFICATION OF FEDERAL COSTS

Based on our analysis of the federal costs incurred to operate the GSL program, the following observations are warranted:

1. The GSL program imposes substantial costs on the federal government. These costs include costs directly assignable to the GSL program (i.e., direct costs) and those incurred because of the GSL program but not directly assignable to the program (i.e., indirect costs).
2. The direct costs (in order of FY 82 magnitude) are:
 - a. Special allowance;
 - b. Federal interest subsidy;
 - c. Federal reinsurance;
 - d. FISL insurance;
 - e. Administrative cost allowance;

- f. Federal advances; and
 - g. Penalty interest.
3. The indirect costs (in order of FY 82 magnitude) are:
- a. Federal financing costs;
 - b. Tax-exempt bond subsidy; and
 - c. Program administration and overhead.
4. Receipts from the GSL program which offset costs include: (in order of FY 82 magnitude)
- a. Origination fees;
 - b. Collections on defaulted loans;
 - c. Special allowance reduction in loans financed with tax-exempt bonds; and
 - d. FISL insurance premiums.

Exhibits to Section III

Exhibit III-1

FY 82 FEDERAL DIRECT COSTS
(in thousands of dollars)

Special Allowance <u>a/</u> <u>b/</u>	\$1,849,900
Federal Interest Subsidy <u>b/</u>	1,064,200
Federal Reinsurance	228,400
FISL Insurance	82,200
Administrative Cost Allowance	55,800
Federal Advances	<u>3,000</u>
TOTAL FY 82 FEDERAL DIRECT COSTS	<u>\$3,283,500</u>

Source: U.S. Department of Education, Office of Student Financial Assistance.

a/ This figure reflects the reduced special allowance rate paid on loans financed using tax-exempt bonds. We have estimated this offset to be approximately \$65 million in FY 82.

b/ Figures presented include penalty interest. In FY 82 total penalty interest paid on interest subsidy and special allowance was approximately \$463,000 or .02% of total interest subsidy and special allowance costs.

Exhibit III-2

FY 82 FEDERAL INDIRECT COSTS
(in thousands of dollars)

Federal Financing Costs <u>a/</u>	\$383,400
Tax-Exempt Bond Subsidy <u>b/</u>	47,900
Program Administration and Overhead <u>c/</u>	<u>34,400</u>
TOTAL FY 82 FEDERAL INDIRECT COSTS	<u><u>\$465,700</u></u>

a/ Assumed to be equal to 13.1% of FY 82 net outlays.

b/ Assumes 7% of total loans outstanding are financed using tax-exempt student loan bonds. Assumes that each billion dollars of outstanding tax-exempt student loan bonds costs the federal government \$30 million annually in forgone tax revenue.

c/ These costs were developed using data provided by the U.S. Department of Education, Office of Management and Office of Student Financial Assistance. Refer to Exhibit III-3 for a detailed breakdown of these costs and the allocation percentages that were used.

Exhibit III-3

FY 82 PROGRAM ADMINISTRATION AND OVERHEAD COSTS

***** INDIRECT COSTS ALLOCATION ***** ***** MANAGEMENT COSTS ALLOCATION *****

	1 \$ SALARY & BENEFITS	2 PORTION CSL	3 \$ CSL SALARIES
SALARY AND BENEFIT EXPENSE			
ODAS	626418	33.3	208597
DOA	293500	33.3	97736
DCFR	2061663	33.3	686534
DFO			
-ADMINISTRATION	144323	33.3	48060
-CSL	811172	100	811172
DSDD			
-ADMINISTRATION	75347	60	45208
-CSL & STATE AGENCY BRANCHES	323449	100	323449
DTD			
-ADMINISTRATION	830202	33.3	276457
-CSL	646622	100	646622
TEMPORARY EMPLOYEES			
-ODAS	54663	33.3	18203
-DCFR	47648	33.3	15867
-UTD	23412	33.3	7796
OVERTIME COMPENSATION	114502	33.3	38129
CASH AWARDS	14750	33.3	4912
TOTAL SALARY AND BENEFIT EXPENSE			3228741
OTHER INDIRECT COSTS			
TRAVEL	139827	33.3	46562
TRANSPORTATION	10918	33.3	3636
PAVEMENT	4585	33.3	1527
PRINTING	321950	100	321950
OFFICE SUPPLIES	31294	33.3	10421
CONTRACTS	6803330	100	6803330
COMMISSIONS	2300000	100	2300000
COMPUTER COSTS	1500000	100	1500000
TOTAL OTHER INDIRECT			10987426
OVERHEAD EXPENSE			
RENT, EQUIPMENT, FURNITURE & FIXTURES, UTILITIES, ETC.			
TOTAL OVERHEAD EXPENSE	2030190	100	2030190
TOTAL CSL INDIRECT & OVERHEAD			16246357
INTERAGENCY AGREEMENTS	50000	100	50000
REGIONAL EXPENSE			
COLLECTION	10500000	100	10500000
NON-COLLECTION	11300000	33.3	3762900
TOTAL CSL (INCLUDING REGIONS AND INTERAGENCY)			30559257

	1 \$ ACTUAL 1982	2 PORTION CSL	3 \$ CSL
OFFICE OF INSPECTOR GENERAL	11772000	2.2	258984
OFFICE OF THE SECRETARY (+ UNDERSEC. & EXEC. SECRETARY)	5217900	8.4	438304
DEPUTY UNDERSECRETARY FOR INTER- GOVERNMENTAL INTERAGENCY AFFAIRS	344000	1	3440
OFFICE OF GENERAL COUNSEL	3921000	4.2	164682
OFFICE OF MANAGEMENT	37720000	5.5	2074600
OFFICE OF PLANNING AND BUDGET EVALUATION	5212000	4.5	234540
OFFICE OF LEGISLATIVE AND PUBLIC AFFAIRS	2668000	8.4	224112
SUBTOTAL			3398662
OVERHEAD			395715
TOTAL MANAGEMENT COSTS			3794377

***** SUMMARY OF SALARY, OVERHEAD, AND EXPENSE *****

OSFA SALARY AND EXPENSES	3228741
OSFA OTHER EXPENSES	10987426
OSFA REGIONS	14262900
INTERAGENCY	50000
OSFA OVERHEAD	2030190
SUBTOTAL OSFA	30559257
MANAGEMENT SALARY AND EXPENSES	3398662
MANAGEMENT OVERHEAD	395715
SUBTOTAL MANAGEMENT	3794377
TOTAL SALARY, OVERHEAD, AND EXPENSES	34353634

EXHIBIT III-4

FY 82 OFFSETS TO FEDERAL COSTS
(in thousands of dollars)

Origination Fees	\$293,000
Collections on Defaulted Loans	78,000
FISL Insurance Premiums	<u>4,000</u>
TOTAL FY 82 OFFSETS	<u><u>\$375,000</u></u>

Source: U.S. Department of Education, Office of Student Financial Assistance.

Exhibit III-5

SUMMARY OF FY 82 COSTS
(in thousands of dollars)

DIRECT COSTS

Special Allowance <u>a/</u>	\$1,849,900
Federal Interest Subsidy	1,064,200
Federal Reinsurance	228,400
FISL Insurance	82,200
Administrative Cost Allowance	55,800
Federal Advances	<u>3,000</u>

TOTAL DIRECT COSTS

\$3,283,500

INDIRECT COSTS

Federal Financing Costs <u>b/</u>	383,400
Tax-Exempt Bond Subsidy <u>c/</u>	47,900
Program Administration and Overhead <u>d/</u>	<u>34,400</u>

TOTAL INDIRECT COSTS

465,700

OFFSETS TO COSTS

Origination Fees	(293,000)
Collections on Defaulted Loans	(78,000)
FISL Insurance Premiums	<u>(4,000)</u>

TOTAL OFFSETS TO COSTS

(375,000)

TOTAL FY 82 PROGRAM COSTS

\$3,374,200

Source: U.S. Department of Education, Office of Student Financial Assistance.

- a/ This figure reflects the reduced special allowance rate paid on loans financed using tax-exempt bonds. We have estimated this offset to be approximately \$64,800 in FY 82.
- b/ Equal to 13.1% of FY 82 net outlays.
- c/ Assumes 7% of total loans outstanding are financed using tax-exempt student loan bonds. Assumes that each billion dollars of outstanding tax-exempt student loan bonds costs the federal government \$30 million annually in forgone tax revenue.
- d/ These costs were developed using data provided by the U.S. Department of Education, Office of Management and Office of Student Financial Assistance.

IV. ANALYSIS OF FEDERAL COSTS

IV. ANALYSIS OF FEDERAL COSTS

The total FY 82 federal GSL program costs were approximately \$3.4 billion. Only a fraction of these costs were attributable to the FY 82 loan portfolio. We estimated that approximately \$200 million (6%) of these costs could be allocated to the FY 82 loan portfolio.

The funds paid out by the federal government in FY 82 to raise new capital appeared to provide substantial financial leverage. For each \$1 paid out in FY 82 to support the FY 82 loan portfolio, the GSL program provided approximately \$31 in capital (i.e., a multiplier effect of approximately 31:1). This multiplier effect is lacking in grant programs where there is no leverage (i.e., a dollar paid out in grants does not provide additional capital -- except in limited instances where states provide some matching funds for student financial assistance).

The multiplier effect discussed above for the GSL program can be misleading. When a portfolio of loans is guaranteed in a given fiscal year, the federal government makes a multi-year commitment to appropriate current dollars each year to support the portfolio as long as even one loan remains outstanding. Therefore, to determine the eventual costs to the federal government for the FY 82 loan portfolio (and the true multiplier effect), it is necessary to estimate the future costs to be incurred due to the

FY 82 portfolio. Since future costs will be a function of future events (e.g., interest rates), we developed automated models which will allow us to test the sensitivity of future costs to a range of different assumptions.

This section presents a summary of the cost analysis. The detailed assumptions behind the analysis are presented in Appendix A, Major Cost Allocation Assumptions. Descriptions of the automated models are contained in Appendix B, Federal Cost Model Descriptions.

A. PROGRAM COSTS

The initial dollar volume of FY 82 loans was \$6.2 billion. This portfolio of loans will eventually cause the federal government to pay out between \$2.9 and \$3.6 billion.* This is equivalent to paying out over the life of the portfolio between 47¢ and 59¢ for each new dollar of loan capital made available in FY 82. This means the multiplier (before adjusting for inflation) is actually in the range of 2.1 - 1.7:1 (i.e., for every dollar of federal cost approximately \$2 of loan capital is made available). Exhibit IV-1 presents the various scenarios which support the range of estimates.

* Net of offsets and before adjustment for the time value of money.

B. SENSITIVITY OF COSTS

Future costs of the FY 82 portfolio will be sensitive to certain factors. In order to analyze sensitivity, we focused on the special allowance and interest subsidy which combined constitute 72-77% of all federal dollars expected to be paid on FY 82 loans. The two major factors (Treasury bill rates for special allowance and the duration of the in-school period for the interest subsidy) are discussed below.

1. Treasury Bill Rates

As shown in Exhibit IV-1, the special allowance costs account for between 29% and 42% of total federal outlays. The quarterly rate of special allowance paid to lenders is a function of the average bond equivalent rate of the 91-day Treasury bills auctioned during the quarter.

We reviewed the impact of varying Treasury bill assumptions on GSL program costs. We obtained alternative Treasury bill assumptions from the following sources:

- Congressional Budget Office (CBO) internal projections; and
- Citibank's Interest Rate Forecast.

Using these sources, we developed four scenarios based upon different Treasury bill assumptions:

a. Scenario 1 -- Citibank Projections.

This scenario uses actual Treasury bill rates for each quarter in FY 82 and CBO's projected rate for FY 83*. Citibank's forecasts are used for the period between FY 84 and FY 87. We have assumed that the FY 87 Treasury bill rate will apply through FY 96.

b. Scenario 2 -- Congressional Budget Office Projections.

We used actual Treasury bill rates for each quarter in FY 82. This scenario uses the Treasury bill rates developed by CBO for the period between FY 83 and FY 88. We have assumed that the FY 88 Treasury bill rate will apply through FY 96.

c. Scenario 3 -- CBO FY 83 Rate Plus 1%.

This scenario uses actual Treasury bill rates for each quarter in FY 82. CBO's FY 83 Treasury bill rates are used for FY 83. This scenario assumes that Treasury bill rates will average 1% above the FY 83 level (or 8.0%) for FY 84 through FY 96.

d. Scenario 4 -- CBO FY 83 Rate Minus 1%.

This scenario uses actual Treasury bill rates for each quarter in FY 82. CBO's FY 83 Treasury bill rates are used for FY 83. This scenario assumes that Treasury bill rates will average 1% below the FY 83 level (or 6.0%) for FY 84 through FY 96.

* CBO's projection is used for FY 83 because, it is more current than Citibank's projection, which was made six months before CBO's.

Based upon the four Treasury bill scenarios described above, the models indicate that the GSL total program cash outflow* for special allowance will range between \$1 billion and \$1.7 billion based on the interest rate assumptions used. A 1% change in Treasury bill rates will change the total cash outflow by approximately \$.3 billion. Exhibits IV-2 through IV-5 present the computer output from these scenarios.

2. Average Loan Lives

Another major factor affecting federal costs (especially the interest subsidy) is the life of the loan portfolio. A number of factors affect loan lives. These factors include:

- The point of time in the student's academic cycle at which he/she obtains the loan;
- The lender's policy regarding allowable durations for repayment periods; and
- The student's eligibility for an authorized deferment during the repayment period.

The scenarios developed use an average interim (i.e., in school and grace period) of three years. These assumptions are consistent with the patterns

* Before adjustment for the time value of money.

found in the portfolios of guarantee agencies. To test the sensitivity of total costs (especially the interest subsidy) to changes in loan lives, we tested the model using a two year average in-school period. The shorter average in-school period resulted in a reduction of approximately \$600 million in total federal costs. This demonstrates the impact of the interest subsidy on total federal costs.

C. TIME VALUE OF MONEY

Current loans commit the federal government to future payments. However, because of inflation, future payments are made with lower value dollars. As noted above, the cumulative total payments are estimated to be in the range of 47¢ to 59¢ for each \$1 of FY 82 new loan volume (before adjustment for inflation).

The amounts repaid in real dollars (i.e., future dollars discounted to FY 82 at some assumed inflation rate) will decrease as the assumed inflation rate increases. Of course, as an offset to the decrease in real costs, the federal government will pay out more in future payments for special allowance as the rate of inflation increases. This will

occur because Treasury bill rates will tend to be higher in periods of high inflation.*

Exhibit IV-6 adjusts the federal government's stream of payments for FY 82 loans to reflect a range of inflation rates.** As shown on the exhibit, the impact of higher inflation tends to reduce the real cost of the GSL program to the federal government. This is true because higher rates of inflation make future period outlays worth less (in real terms) than they would be worth with lower rates of inflation. The computer output from the 5% and 7% inflation scenarios is presented in Exhibit IV-7 and Exhibit IV-8, respectively. The computer output from the 6% inflation scenario is presented in Exhibit IV-3.

As shown on Exhibit IV-6, when an inflation adjustment is applied to the federal GSL program costs, the effect is to reduce the real cost of the FY 82 loans to between 42¢ and 44¢ for each dollar of principal loaned. This means the true multiplier is not 31:1 but approximately 2.3:1 (i.e., for every real dollar of federal cost \$2.30 of loans are made available to students).

* However, the special allowance is tied to short-term Treasury bill rates which are not necessarily responsive to long-term inflationary expectations. Short-term rates reflect volatility in the demand and supply of short-term funds. Inflationary expectations are usually expressed in the rates demanded for intermediate and long-term debt. Traditionally, short-term rates have been less than long-term, but this relationship has been inverted frequently in recent times.

** Inflation rates of 5%, 6%, and 7% were used in these scenarios. The three cost scenarios tested were all based upon CBO's projected Treasury bill rates.

D. FUTURE FEDERAL COSTS

If the GSL program was a single year program (i.e., the federal government needed capital for students in only one fiscal year), it would be the clear choice because of the leverage it provides (i.e., \$31 in capital for every \$1 of first year federal cost). However, the GSL program is a multi-year program which has been underway since 1965. Each year the federal government commits itself to more future payments which constitute a cumulative federal funding commitment. Most of this commitment is for payments to lenders which are entitlements once the loan has been insured.

In FY 82 the federal government was probably paying for capital provided to students in the late 1960's -- and every year in between. The cumulative effect of annually incurring a multi-year stream of payment obligations constitutes a future federal liability.* Essentially, the GSL program provides the federal government with an effective ability to raise educational capital now and pay later. The cumulative effect of deferring payments may, however, exceed the availability of appropriated funds to provide funding for the GSL program.**

* For example, in FY 82 approximately 94% of the \$3.4 billion cost of the program was related to loans made in prior years.

** See the federal cost reduction initiatives discussed in Section II of this report.

E. SUMMARY OF MAJOR OBSERVATIONS: ANALYSIS OF FEDERAL COSTS

Based on our analysis of the federal costs incurred to operate the GSL program, the following observations are warranted:

1. The federal government has committed itself to a significant stream of future payments as a result of the \$6.2 billion of new GSL loans disbursed in FY 82.
2. The cumulative future payments for the new FY 82 GSL loans are estimated to be \$2.9 to \$3.6 billion (unadjusted for the time value of money). This is equivalent to 47¢ to 59¢ for each dollar loaned. In other words, approximately \$2 of capital is generated for every \$1 of federal cost.
3. The most significant components of the payment stream are: (1) the special allowance and (2) the in-school subsidy. These two combined amount to between 72% and 77% of the total program outlays.
4. The next most significant cost component is reinsurance (16% to 19% of total payments). All other direct and indirect costs only account for 7% to 9% of the total program outlays.

5. While there are revenues to offset payments (e.g., collections), these offsets are not particularly significant (i.e., the cumulative total of all offsets equals approximately 15% of total program outlays.
6. The most significant unknowns affecting future payments are: (a) interest rates (i.e., Treasury bill rates) and (b) the average loan lives in the portfolio. These factors have a major impact on special allowance and the interest subsidy respectively.
7. The future federal costs of the GSL program must be adjusted for inflation to estimate real costs (i.e., expressed in current dollars). The effect of inflation is to reduce the real cost of the FY 82 loans to between \$2.6 billion and \$2.7 billion. This is equivalent to 42¢ to 44¢ for each dollar loaned. This provides a real multiplier of 2.3 - 2.4:1 (i.e., for every dollar of real federal cost, \$2.30 to \$2.40 of loans are made available).
8. Because a loan program provides leverage (i.e., more than one dollar of capital is generated for each federal dollar spent), it delivers more

capital to students than would a grant program. There is no doubt the GSL program provides more total student loan capital than would a grant program with equal annual outlays. However, this advantage can be overstated when only the current year is examined. The true multiplier effect in real terms and when all future obligations are taken into account is slightly in excess of 2:1.

9. The GSL program provides a significant capability to provide capital now and pay later. Both the borrower and the federal government assume an obligation for future payments.

Exhibits to Section IV

Exhibit IV-1

CUMULATIVE PROGRAM COSTS
(in millions of dollars)

	<u>Scenario 1</u>		<u>Scenario 2</u>		<u>Scenario 3</u>		<u>Scenario 4</u>	
	<u>Citibank</u>		<u>CBO Rates</u>		<u>CBO FY 83</u>		<u>CBO FY 83</u>	
	<u>Rates</u>		<u>CBO Rates</u>		<u>Rate + 1%</u>		<u>Rate - 1%</u>	
	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>%</u>
1. Interest Subsidy	\$1,435	35%	\$1,435	40%	\$1,435	36%	\$1,435	43%
2. Special Allowance	1,693	42%	1,172	33%	1,644	41%	980	29%
3. Reinsurance	634	16%	634	18%	634	16%	634	19%
4. Administrative Cost Allowance	89	2%	89	3%	89	2%	89	3%
5. All Other	<u>216</u>	<u>5%</u>	<u>209</u>	<u>6%</u>	<u>214</u>	<u>5%</u>	<u>206</u>	<u>6%</u>
6. Total Gross Outlays (1+2+3+4+5)	<u>\$4,067</u>	<u>100%</u>	<u>\$3,539</u>	<u>100%</u>	<u>\$4,016</u>	<u>100%</u>	<u>\$3,344</u>	<u>100%</u>
7. Total Offsets	<u>(438)</u>		<u>(420)</u>		<u>(437)</u>		<u>(413)</u>	
8. Total Net Outlays	<u>\$3,628</u>		<u>\$3,119</u>		<u>\$3,580</u>		<u>\$2,931</u>	

Exhibit IV-2
SCENARIO 1 -- CITIBANK RATES

== FUND COSTS CALCULATION ==

DISCOUNT RATE

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ADVANCES DISBURSED, FISCAL YEAR 1982:

FIRST QUARTER 775
SECOND QUARTER 329
THIRD QUARTER 403
FOURTH QUARTER 1416

	FISCAL YEAR 1982				FT 83	FT 84	FT 85	FT 86	FT 87	FT 88	FT 89	FT 90	FT 91	FT 92	FT 93	FT 94	FT 95	FT 96	TOTAL
	QTR 1	QTR 2	QTR 3	QTR 4															
NET CASH FLOW - FT RMBL	6179	-34481	-47897	-36797	-427967	-588542	-636373	-196182	-152888	-128824	-95749	-64989	-88523	-17537	1543	1543	1043	1543	-2231874
NET CASH FLOW - VE RMBL	4019	-23879	-32132	-22636	-284863	-397041	-279233	-86612	-62807	-47918	-39184	-27375	-17794	-9138	1043	1043	693	1043	-1254487
NET CASH FLOW - L&L RMBL	-152	-291	-342	-1486	-5661	-2083	-1167	-653	-354	-238	-145	94	67	48	48	0	0	0	-11151
ADVANCES DISBURSED	-735	-329	-403	-1496															-2943
FEDERAL FINANCING COSTS	121	-775	-1898	-836	-9387	-12774	-9316	-3683	-2748	-2184	-1756	-1227	-757	-346	34	34	83	34	-40561
ADJUSTED CASH FLOW	9432	-36875	-51824	-45167	-736776	-995488	-726091	-287132	-217227	-179366	-136834	-95637	-79911	-26996	2487	2487	1761	2487	
DISCOUNTED CASH FLOW	9432	-37986	-79423	-61957	-685439	-987983	-809440	-227435	-162234	-128140	-91882	-68884	-34729	-13875	1413	1383	825	1369	
TOTAL CASH FLOW, INCLUDING THE DISCOUNT RATE	-3628173	---	-3.62 BILLION																
TOTAL CASH FLOW, DISCOUNTED TO BEGINNING OF FISCAL YEAR 1982	-3874874	---	-3.88 BILLION																

Exhibit IV-2 (cont'd)
SCENARIO 1 -- CITIBANK RATES

PORTFOLIO AMORTIZATION TABLE																			
75 LOANS	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	TOTAL		
INITIAL PRINCIPAL BALANCE	100770	400792	477792	1000042	3446399	3421040	3270744	3009723	2674371	2340090	2002794	1590444	973793	414309	0	0	0		
CANCELLATIONS	40111	21120	24383	9794															
NET DISBURSEMENTS	60659	389592	453409	999998	3446399	3421040	3270744	3009723	2674371	2340090	2002794	1590444	973793	414309	0	0	0		
CUMULATIVE BALANCE OUTSTANDING	60659	124074	171513	271513	3446399	3421040	3270744	3009723	2674371	2340090	2002794	1590444	973793	414309	0	0	0		
CLAIMS				0	47241	150004	60321	27271	27271	15000	15000	11248	11248	11248	11248	11248	11248		
PROCEEDS ON PRINCIPAL					47241	150004	60321	27271	27271	15000	15000	11248	11248	11248	11248	11248	11248		
NET PRINCIPAL BALANCE	60659	124074	171513	271513	3446399	3421040	3270744	3009723	2674371	2340090	2002794	1590444	973793	414309	0	0	0		
PRINCIPAL COSTS																			
OUTFLOWS:																			
MARKET COSTS	15000	21777	30027	60000	241057	234197	170104	0	0	0	0	0	0	0	0	0	0	777664	
INTEREST SUBSIDY	15000	21777	30027	60000	241057	234197	170104	0	0	0	0	0	0	0	0	0	0	777664	
SPECIAL ALLOWANCE					126779	197308	157743	130194	120419	97304	77714	54062	39927	28800	11231	0	0	1707567	
FLUORANCE CLAIMS					60974	149740	90999	33493	22442	14975	14975	11221	11221	11221	11221	11221	11221	374370	
ADMINISTRATIVE COST ALLOWANCE	1500	673	873	3063	9467	5773	7102	11303	9739	7707	5734	3677	2529	1523	0	0	0	45739	
TOTAL DIRECT COSTS	26000	52623	71420	110023	400247	504944	430706	195272	137440	121906	97422	60770	40029	30020	0	0	0	2419367	
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	1500	500	700	2740	5439	7512	5735	5026	3197	4430	3095	2374	1870	0	0	0	0	44011	
TAX CREDIT SUBSIDY	451	653	900	7279	7732	7076	6004	6001	5009	4001	3014	2671	1679	0	0	0	0	56199	
TOTAL INDIRECT COSTS	1741	1253	1600	10005	12671	12530	12539	12426	11145	9330	7309	5047	2529	0	0	0	0	100450	
TOTAL OUTFLOWS	27741	53876	73020	120028	430918	517574	443235	207498	148585	131236	105231	70017	42029	30020	0	0	0	2519817	
INFLOWS:																			
COLLECTIONS				0	522	2066	4173	6259	7302	7824	6781	5216	3051	2000	1545	1545	1043	52199	
COLLECTION FOR	4700	19720	22571	67781														173314	
FEDERAL INSURANCE PREMIUM	774	131	161	5781														1184	
SPECIAL ALLOWANCE OFFSET	602	1091	1420	1920	6000	6075	6921	5257	4215	3076	2702	1892	1040	300	0	0	0	42263	
TOTAL INFLOWS	4700	20000	23852	74282	5011	8722	11094	11516	11517	11299	9483	7100	4697	2916	1545	1545	1043	200923	
NET CASH FLOW	4179	-34001	-47007	-30797	-427967	-500582	-436573	-196182	-152000	-120004	-97409	-60009	-40525	-17707	1545	1545	1043	1545	-231074

Exhibit IV-2 (cont'd)
SCENARIO 1 -- CITIBANK RATES

Trade Ross & Co

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PORTFOLIO AMORTIZATION TABLE																			
VS LOANS	FISCAL YEAR 1980	FISCAL YEAR 1981	FISCAL YEAR 1982	FISCAL YEAR 1983	FISCAL YEAR 1984	FISCAL YEAR 1985	FISCAL YEAR 1986	FISCAL YEAR 1987	FISCAL YEAR 1988	FISCAL YEAR 1989	FISCAL YEAR 1990	FISCAL YEAR 1991	FISCAL YEAR 1992	FISCAL YEAR 1993	FISCAL YEAR 1994	FISCAL YEAR 1995	FISCAL YEAR 1996	FISCAL YEAR 1997	TOTAL
INITIAL PRINCIPAL BALANCE	605167	170844	231844	123277	2716079	2388496	2180142	2139948	2074218	1748997	1418544	1056338	681118	384883	0	0	0	0	
CANCELLATIONS	32076	14754	17289	65712															
NET DISBURSMENTS	57397	15539	21457	116464															
CUMULATIVE BALANCE SUPPLEMENTARY CLAIMS	57397	62776	114387	230809	2388496	2180142	2139948	2074218	1748997	1418544	1056338	681118	384883	0	0	0	0		
PAYMENTS ON PRINCIPAL	57397	62776	114387	230809	2388496	2180142	2139948	2074218	1748997	1418544	1056338	681118	384883	0	0	0	0		
NET PRINCIPAL BALANCE	57397	62776	114387	230809	2388496	2180142	2139948	2074218	1748997	1418544	1056338	681118	384883	0	0	0	0		
EXPENSES																			
DIRECT COSTS	1795	1866	2379	3194	26438	26879	14584	0	0	0	0	0	0	0	0	0	0		61175
INTEREST SUBSIDY	14138	14331	2126	25178	30744	87711	86427	78248	42717	35473	27744	19716	10864	3196	0	0	0		484738
SECURITIES ALLOWANCE																			
PERFORMANCE CLAIMS																			
ADMINISTRATIVE COST ALLOWANCE	1803	640	778	784	1146	1798	2773	22467	14775	9883	9983	7482	7482	7482	0	0	0		277488
TOTAL DIRECT COSTS	24825	25748	4243	7721	57614	28679	27478	94538	68113	48425	38794	26304	18677	10463	0	0	0		1426416
INDIRECT COSTS																			
ADMINISTRATIVE & OVERHEAD	840	771	484	1838	2636	2674	2873	2888	2475	2881	2382	1478	779	0	0	0	0		27887
TAX EXPENSE SUBSIDY	361	434	481	1713	4871	4284	4536	8484	3945	2384	2794	1874	1873	296	0	0	0		24114
TOTAL INDIRECT COSTS	1141	624	1064	3544	9447	6754	6749	6794	7488	6311	6973	2453	1723	296	0	0	0		63658
TOTAL EXPENSES	25146	26374	4849	8729	28416	29438	28117	98804	48373	54296	44677	28756	20410	10463	0	0	0		1484499
INFLUENCE																			
COLLECTIONS				0	348	1391	3782	4173	4848	3814	4898	3477	2404	1739	1843	1843	895	1848	24773
DISCOUNTING FEE	38475	13807	15716	58348															117543
FISCAL ALLOWANCE PREMIUM	194	88	187	394															798
SPECIAL ALLOWANCE OFFSET	254	262	746	681	1386	2994	3188	2897	1495	1142	972	484	288	112	0	0	0	0	14873
TOTAL INFLUENCE	39475	13895	16548	59429	1734	4387	3884	4212	4363	6487	5492	4142	2814	1851	1843	1843	895	1848	148876
NET CASH FLOW	6619	73679	32138	22350	2388496	2180142	2139948	2074218	1748997	1418544	1056338	681118	384883	0	0	0	0		1364421

Exhibit IV-2 (cont'd)
SCENARIO 1 -- CITIBANK RATES

GUARANTEED TRUST LOAN PROGRAM - FUNDING COSTS REEL																			
PORTFOLIO AMORTIZATION TABLE																			
100 LOANS	YR 1	FISCAL YEAR 1982 YR 2	YR 3	YR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
INITIAL PRINCIPAL BALANCE	23457	10000	12863	47744	87449	73066	68534	67576	23771	14851	2825	0	0	0	0	0	0	0	
CANCELLATIONS	1173	323	643	7388															
NET DISBURSMENTS	22284	9776	12220	45356															
CUMULATIVE BALANCE DEFERRING CLAIMS	22284	32756	44476	89834															
PAYMENTS ON PRINCIPAL		312	781	1244	4189	1656	974	585	398	398	292	0	0	0	0	0	0	0	
NET PRINCIPAL BALANCE	22284	31728	43695	87449	89174	10094	11084	12221	12579	12677	2542	0	0	0	0	0	0	0	
PROGRAM COSTS																			
OUTFLOW:																			
DIRECT COSTS																			
SPECIAL ALLOWANCE	173	248	371	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REINSTATEMENT CLAIMS				1250	4189	1656	974	585	398	398	292	0	0	0	0	0	0	0	0
ADMINISTRATIVE COST ALLOWANCE	21	29	40	81	279	224	176	123	82	38	24	0	0	0	0	0	0	0	0
TOTAL DIRECT COSTS	194	277	411	1330	6768	1680	1143	703	460	436	293	0	0	0	0	0	0	0	0
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	8	12	17	34	114	187	85	105	38	13	1	0	0	0	0	0	0	0	0
TAX EXPENSE SURPLUS	12	17	21	42	167	148	124	95	52	23	1	0	0	0	0	0	0	0	0
TOTAL INDIRECT COSTS	20	29	38	76	281	242	109	140	90	36	2	0	0	0	0	0	0	0	0
TOTAL OUTFLOW	194	306	451	1419	6715	2111	1342	893	558	426	293	0	0	0	0	0	0	0	0
INFLOW:																			
COLLECTIONS		0	0	13	54	108	175	202	214	189	148	94	67	40	40	0	0	0	0
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPECIAL ALLOWANCE OFFSET	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INFLOW	4	0	0	13	54	108	175	202	214	189	148	94	67	40	40	0	0	0	0
NET CASH FLOW	-192	-306	-451	-1406	-6661	-2003	-1167	-693	-344	-236	-145	94	67	40	40	0	0	0	-11140

Touche Ross & Co.

== FIRM COST CALCULATION ==

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Exhibit IV-3 (cont'd)

SCENARIO 2 -- CBO RATES

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS PERIOD																			
PORTFOLIO AMORTIZATION TABLE																			
7% LOANS	YR 1	FISCAL YEAR 1982 YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	TOTAL		
INITIAL PRINCIPAL BALANCE	907750	606292	497799	1848443	3442289	3421048	3270244	3209923	3076371	2588898	2082994	1549444	993795	414349	0	0	0	0	
CANCELLATIONS	48111	21533	24383	97948															
NET DISBURSEMENTS	859640	584758	471415	1750476															
CUMULATIVE BALANCE OUTSTANDING	859640	1244398	1715813	3466289															
CLAIMS				0	45241	150804	40321	33931	22621	15080	15080	11310	11310	11310	0	0	0	0	
PAYMENTS ON PRINCIPAL				0	0	0	0	91621	444853	490824	518270	544538	544136	403839	0	0	0	0	
NET PRINCIPAL BALANCE	859640	1244398	1715813	3466289	3421048	3270244	3209923	3076371	2588898	2082994	1549444	993795	414349	0	0	0	0	0	
PROGRAM COSTS																			
OUTFLOWS:																			
DIRECT COSTS																			
INTEREST SUBSIDY	15044	21777	30027	40640	241057	234195	170104	0	0	0	0	0	0	0	0	0	0	0	772844
SPECIAL ALLOWANCE	19490	31172	40548	55099	128279	125182	134327	187184	81755	60692	46725	32715	18112	5328	0	0	0	0	894031
REINSURANCE CLAIMS				0	44924	149748	59899	33693	22462	14975	14975	11231	11231	11231	0	0	0	0	374278
ADMINISTRATIVE COST ALLOWANCE	1504	473	825	3043	5987	5723	7182	11383	9579	7767	5734	3677	1533	0	0	0	0	0	44570
TOTAL DIRECT COSTS	36038	53623	71420	118823	420247	524848	371513	152260	113797	82774	67433	47623	30877	16361	0	0	0	0	2187825
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	1289	586	728	2746	5439	5512	5735	5826	5197	4432	3495	2374	1050	0	0	0	0	0	44411
TAX EXEMPT SUBSIDY	451	653	901	7279	7232	7026	6804	6401	5946	4905	3814	2471	1479	425	0	0	0	0	54199
TOTAL INDIRECT COSTS	1741	1239	1629	10025	12671	12538	12539	12426	11145	9338	7309	5047	2529	425	0	0	0	0	100610
TOTAL OUTFLOWS	37779	54862	73049	128847	432918	537386	384052	164686	124942	92112	74743	52670	32405	16786	0	0	0	0	2288446
INFLOWS:																			
COLLECTIONS				0	522	2086	4173	6259	7302	7824	6781	5216	3651	2488	1545	1545	1043	1545	52159
ORIGINATION FEE	42982	19229	23571	87524															173314
FEDERAL INSURANCE PREMIUM	294	131	161	598															1184
SPECIAL ALLOWANCE OFFSET	482	1091	1420	1928	4490	4731	4781	3751	2861	2183	1635	1145	634	187	0	0	0	0	31361
TOTAL INFLOWS	43958	20460	25152	90050	5011	6818	8874	10011	10164	9927	8416	6361	4285	2794	1545	1545	1043	1545	258019
NET CASH FLOW	6179	-34401	-47897	-38797	-427407	-530548	-375178	-154676	-114778	-82185	-66327	-66309	-29120	-14201	1545	1545	1043	1545	-1958427

Exhibit IV-3 (cont'd)

SCENARIO 2 -- CBO RATES

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																			
PORTFOLIO AMORTIZATION TABLE																			
YE LONG	OTR 1	FISCAL YEAR 1982 OTR 2	OTR 3	OTR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
INITIAL PRINCIPAL BALANCE	405167	270861	331866	1232295	2310859	2280498	2180162	2139948	2054218	1740997	1410564	1056308	681118	284083	0	0	0	0	
CANCELLATIONS	32074	14354	17589	45312															
NET DISBURSMENTS	573093	256505	314277	1166984															
CUMULATIVE BALANCE OUTSTANDING	573093	829598	1143875	2310859															
CLAIMS				0	30161	100536	40214	22621	15088	10054	10054	7540	7540	7540	0	0	0	0	
PAYMENTS ON PRINCIPAL					0	0	0	43110	298140	320380	344172	367480	389495	276543	0	0	0	0	
NET PRINCIPAL BALANCE	573093	829598	1143875	2310859	2280498	2180162	2139948	2054218	1740997	1410564	1056308	681118	284083	0	0	0	0	0	
PROGRAM COSTS																			
OUTFLOWS:																			
DIRECT COSTS																			
INTEREST SUBSIDY	12095	18666	25737	51994	204620	200739	145804	0	0	0	0	0	0	0	0	0	0	0	662455
SPECIAL ALLOWANCE	10128	16634	21326	25178	29604	45513	46250	29571	14817	9821	7062	4974	2743	813	0	0	0	0	275752
REINSURANCE CLAIMS				0	2450	9432	39933	22462	14975	9983	7487	7487	7487	7487	0	0	0	0	249580
ADMINISTRATIVE COST ALLOWANCE	1000	449	550	2042	1996	1908	2794	3800	3221	2610	1954	1240	526	0	0	0	0	0	23112
TOTAL DIRECT COSTS	24025	35748	47613	79215	278169	347991	234481	55833	35012	21614	18999	13721	10776	8301	0	0	0	0	1211499
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	860	391	486	1830	3626	3674	3823	3890	3495	3001	2383	1628	729	0	0	0	0	0	29887
TAX EXEMPT SUBSIDY	301	436	601	1213	4821	4484	4536	4404	3985	3309	2590	1824	1013	298	0	0	0	0	24016
TOTAL INDIRECT COSTS	1161	826	1086	3044	8447	8358	8359	8294	7480	6311	4973	3453	1733	298	0	0	0	0	63823
TOTAL OUTFLOWS	25186	36574	48699	82259	286616	356349	242840	64127	42492	27925	23972	17174	12509	8599	0	0	0	0	1275322
INFLOWS:																			
COLLECTIONS				0	348	1391	2782	4173	4868	5216	4520	3477	2434	1739	1043	1043	695	1043	34773
ORIGINATION FEE	26435	12625	15714	58349															113543
FEDERAL INSURANCE PREMIUM	194	88	107	399															740
SPECIAL ALLOWANCE OFFSET	354	582	746	881	1306	1593	1622	1035	589	316	247	174	97	28	0	0	0	0	9651
TOTAL INFLOWS	29205	13495	16560	59629	1734	2984	4404	5208	5457	5532	4768	3651	2531	1767	1043	1043	695	1043	140757
NET CASH FLOW	4019	-23079	-32132	-22630	-284883	-353565	-238436	-58919	-37035	-22393	-19204	-13522	-9778	-6832	1043	1043	695	1043	-1114565

Exhibit IV-3 (cont'd)

SCENARIO 2 -- CBO RATES

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS REBEL																			
PORTFOLIO AMORTIZATION TABLE																			
142 LOANS	FISCAL YEAR 1982				FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
	YR 1	YR 2	YR 3	YR 4															
INITIAL PRINCIPAL BALANCE	23457	10499	12843	47764	87449	73086	60534	47576	33771	18851	2835	0	0	0	0	0	0	0	
CANCELLATIONS	1173	525	443	2388															
NET DISBURSEMENTS	22284	9974	12220	45376															
CUMULATIVE BALANCE OUTSTANDING	22284	32258	44478	89854															
CLAIMS	0	0	0	1446	4189	1454	974	585	390	390	272	0	0	0	0	0	0	0	
PAYMENTS ON PRINCIPAL	519	781	1138	10174	10896	11984	12221	14530	15427	2542	0	0	0	0	0	0	0	0	
NET PRINCIPAL BALANCE	22284	31738	43616	87449	73086	60534	47576	33771	18851	2835	0	0	0	0	0	0	0	0	
PROGRAM COSTS																			
OUTFLOWS:																			
DIRECT COSTS																			
SPECIAL ALLOWANCE	115	242	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428
REINSURANCE CLAIMS				1254	4140	1445	967	580	387	387	290	0	0	0	0	0	0	0	9674
ADMINISTRATIVE COST ALLOWANCE	21	29	40	81	270	224	176	125	79	10	9	0	0	0	0	0	0	0	1047
TOTAL DIRECT COSTS	136	271	311	1338	4430	1869	1143	705	457	397	299	0	0	0	0	0	0	0	11348
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	8	12	17	34	114	102	85	64	38	4	0	0	0	0	0	0	0	0	483
TAX EXEMPT SUBSIDY	12	17	23	47	169	140	114	85	55	23	3	0	0	0	0	0	0	0	647
TOTAL INDIRECT COSTS	20	29	40	81	283	242	199	149	93	27	3	0	0	0	0	0	0	0	1170
TOTAL OUTFLOWS	156	300	351	1419	4713	2111	1342	855	550	424	292	0	0	0	0	0	0	0	12518
INFLOWS:																			
COLLECTIONS		0	0	13	54	108	175	202	216	189	148	94	67	48	48	0	0	0	1348
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPECIAL ALLOWANCE OFFSET	4	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
TOTAL INFLOWS	4	8	9	13	54	108	175	202	216	189	148	94	67	48	48	0	0	0	1370
NET CASH FLOW	-152	-291	-342	-1406	-4661	-2003	-1167	-653	-334	-238	-145	94	67	48	48	0	0	0	-11148

Exhibit IV-4

SCENARIO 3 -- CBO RATES PLUS 18

*****CUMULATED STUDENT LOAN PROGRAM - FEDERAL COSTS PERIOD*****

** FUND COSTS CALCULATION **

DISCOUNT RATE 6

ADVANCES DISBURSED, FISCAL YEAR 1982:

FIRST QUARTER	735
SECOND QUARTER	129
THIRD QUARTER	483
FOURTH QUARTER	1498

	FISCAL YEAR 1982				PT 83	PT 84	PT 85	PT 86	PT 87	PT 88	PT 89	PT 90	PT 91	PT 92	PT 93	PT 94	PT 95	PT 96	TOTAL
	QTR 1	QTR 2	QTR 3	QTR 4															
NET CASH FLOW - 7% MODEL	6179	-34481	-47897	-38797	-427907	-554394	-394961	-196182	-144505	-131912	-104993	-73081	-44108	-18612	1543	1543	1843	1543	-2222133
NET CASH FLOW - 9% MODEL	4019	-23879	-32132	-22430	-284843	-369250	-251425	-84612	-71487	-59938	-45442	-32814	-20252	-9854	1043	1043	693	1043	-1297579
NET CASH FLOW - 14% MODEL	-152	-291	-342	-1404	-4661	-2083	-1167	-633	-334	-238	-145	94	67	40	40	0	0	0	-11151
ADVANCES DISBURSED	-735	-129	-483	-1498															-2963
FEDERAL FINANCING COSTS	121	-735	-1050	-836	-9327	-12033	-8421	-3485	-3181	-2445	-1958	-1369	-836	-378	34	34	23	34	-45948
AGGREGATE CASH FLOW	9432	-36895	-61824	-45167	-726778	-937480	-656174	-287132	-241427	-199530	-152950	-106672	-63129	-28798	2482	2482	1761	2482	
DISCOUNTED CASH FLOW	9432	-37984	-79423	-61957	-685639	-834532	-550936	-227435	-188958	-134318	-101460	-66927	-38958	-16080	1413	1313	885	1149	
TOTAL CASH FLOW, INCLUDING THE DISCOUNT RATES	-3579768	---	-3.58 BILLION																
TOTAL CASH FLOW, DISCOUNTED TO BEGINNING OF FISCAL YEAR 1982:	-3081250	---	-3.02 BILLION																

Exhibit IV-4 (cont'd)
SCENARIO 3 -- CBO RATES PLUS 1%

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																			
PORTFOLIO AMORTIZATION TABLE																			
7% LOANS	FISCAL YEAR 1982				PT 83	PT 84	PT 85	PT 86	PT 87	PT 88	PT 89	PT 90	PT 91	PT 92	PT 93	PT 94	PT 95	PT 96	TOTAL
YR 1	YR 2	YR 3	YR 4																
INITIAL PRINCIPAL BALANCE	967750	404292	497799	1848443	3444289	3421848	3270244	3209923	3074371	2588898	2082994	1549644	993795	414349					
CANCELLATIONS	48111	21533	24363	97948															
NET DISBURSEMENTS	859640	384758	471415	1750476															
CUMULATIVE BALANCE OUTSTANDING	859640	1244398	1715813	3444289															
CLAIMS					45241	150804	40321	33931	22421	15080	15080	11310	11310	11310	0	0	0	0	0
PAYMENTS ON PRINCIPAL																			
NET PRINCIPAL BALANCE	859640	1244398	1715813	3444289	3421848	3270244	3209923	3074371	2588898	2082994	1549644	993795	414349	0	0	0	0	0	0
PROGRAM COSTS																			
OUTGOING:																			
DIRECT COSTS																			
INTEREST SUBSIDY	19444	21777	30027	40440	241057	234195	170104	0	0	0	0	0	0	0	0	0	0	0	772844
SPECIAL ALLOWANCE	19440	21172	40544	55099	128279	159872	154828	150194	125358	111424	86792	60749	32444	9900	0	0	0	0	1177593
REINSURANCE CLAIMS				0	44924	149748	51899	23893	22442	14975	14975	11731	11731	11231	0	0	0	0	374370
ADMINISTRATIVE COST ALLOWANCE	1504	873	825	3043	5987	5723	7182	11383	9579	7707	5734	5071	1532	0	0	0	0	0	64570
TOTAL DIRECT COSTS	36038	53623	71420	118823	426247	549539	392014	193272	167399	134384	107582	75678	44408	21131	0	0	0	0	2389397
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	1289	584	728	2746	5409	9512	5735	5626	5197	4432	3495	2704	1958	0	0	0	0	0	44411
TAX EXEMPT SUBSIDY	451	453	901	7279	7232	7026	6804	6401	5949	4905	3814	2671	1479	435	0	0	0	0	54199
TOTAL INDIRECT COSTS	1741	1239	1629	10025	12641	12538	12539	12426	11145	9338	7309	5847	2529	435	0	0	0	0	100410
TOTAL OUTGOING	37779	54862	73049	128847	432918	562076	404553	207698	178544	143643	114011	80724	48937	21566	0	0	0	0	2490008
INCOMING:																			
COLLECTIONS				0	522	2084	4173	6259	7382	7824	4781	5214	3851	2408	1545	1545	1043	1545	52159
ORIGINATION FEE	42982	19238	22571	87524															173314
FEDERAL INSURANCE PREMIUM	294	131	161	598															1184
SPECIAL ALLOWANCE OFFSET	482	1091	1420	1928	4490	5594	5419	5257	4738	3907	3038	2127	1178	346	0	0	0	0	41216
TOTAL INCOMING	43958	20460	25152	90050	5811	7682	9592	11516	12040	11731	9818	7343	4829	2954	1545	1545	1043	1545	267874
NET CASH FLOW	4179	-34401	-47897	-38797	-427907	-554394	-394461	-196182	-146505	-131912	-104993	-73381	-44108	-18612	1545	1545	1043	1545	-222213

Exhibit IV-4 (cont'd)
SCENARIO 3 -- CBO RATES PLUS 1%

***** GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL *****																			
----- PORTFOLIO AMORTIZATION TABLE -----																			
YE LONG	UTR 1	FISCAL YEAR 1982 UTR 2	UTR 3	UTR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
INITIAL PRINCIPAL BALANCE	605167	270861	331866	1232295	2310859	2280498	2180162	2139948	2054218	1740997	1410544	1056338	681118	284083	0	0	0	0	
CANCELLATIONS	32074	14256	17589	45312															
NET DISBURSEMENTS	573093	256505	314277	1164984															
CUMULATIVE BALANCE OUTSTANDING	573093	829598	1143875	2310859															
CLAIMS				0	30161	100536	40214	22621	15080	10054	10054	7540	7540	7540	0	0	0	0	
PAYMENTS ON PRINCIPAL				0	0	0	0	43110	298140	320380	344172	367480	389495	276543	0	0	0	0	
NET PRINCIPAL BALANCE	573093	829598	1143875	2310859	2280498	2180162	2139948	2054218	1740997	1410544	1056338	681118	284083	0	0	0	0	0	
----- PRINCIPAL COSTS -----																			
OUTFLOWS:																			
DIRECT COSTS																			
INTEREST SUBSIDY	12895	18666	25737	51994	204620	200739	145804	0	0	0	0	0	0	0	0	0	0	0	662455
SPECIAL ALLOWANCE	10128	16634	21326	25178	39604	61973	60018	58248	52725	43783	34272	24138	13489	3947	0	0	0	0	445402
REINSURANCE CLAIMS				0	29550	99832	39933	22462	14975	9983	7487	7487	7487	7487	0	0	0	0	249560
ADMINISTRATIVE COST ALLOWANCE	1000	449	950	2042	1996	1908	2394	3800	3221	2610	1954	1240	526	0	0	0	0	0	23712
TOTAL DIRECT COSTS	24025	35748	47613	79215	278169	364451	248148	84530	70921	56376	46209	32885	21422	11434	0	0	0	0	1481149
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	860	391	486	1830	3626	3674	3823	3890	3495	3081	2383	1628	720	0	0	0	0	0	29887
TAX EXEMPT SUBSIDY	301	436	601	1213	4821	4484	4536	4404	3985	3309	2590	1824	1013	298	0	0	0	0	34816
TOTAL INDIRECT COSTS	1161	826	1086	3044	8447	8358	8359	8294	7480	6311	4973	3453	1733	298	0	0	0	0	63823
TOTAL OUTFLOWS	25186	36574	48699	82259	286616	372810	256507	92824	78401	62687	51182	36338	23156	11732	0	0	0	0	1444971
INFLOWS:																			
COLLECTIONS				0	345	1391	2782	4173	4868	5216	4520	3477	2434	1739	1043	1043	695	1043	34773
ORIGINATION FEE	28455	12825	15714	58349															115543
FEDERAL INSURANCE PREMIUM	196	88	107	399															798
SPECIAL ALLOWANCE OFFSET	354	582	746	881	1386	2169	2101	2839	1845	1532	1200	845	469	138	0	0	0	0	16289
TOTAL INFLOWS	29205	13495	16548	59629	1734	3560	4882	6212	6714	6748	5720	4322	2903	1877	1043	1043	695	1043	167394
NET CASH FLOW	4019	-23079	-32132	-22430	-264883	-369250	-251625	-86612	-71687	-55938	-45462	-32016	-20252	-9856	1043	1043	695	1043	-1297577

Exhibit IV-4 (cont'd)
SCENARIO 3 -- CBO RATES PLUS 1%

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																			
PORTFOLIO AMORTIZATION TABLE																			
14% LOANS	QTR 1	FISCAL YEAR 1982 QTR 2	QTR 3	QTR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
INITIAL PRINCIPAL BALANCE	22457	10499	12863	47244	87449	73084	60534	47576	33771	18851	2835	0	0	0	0	0	0	0	
CANCELLATIONS	1173	525	443	2386															
NET DISBURSEMENTS	22284	9974	12220	45376															
CUMULATIVE BALANCE OUTSTANDING	22284	32258	44478	89854															
CLAIMS		0	0	1246	4189	1654	974	585	390	390	292	0	0	0	0	0	0	0	
PAYMENTS ON PRINCIPAL	22284	31738	781	1138	18174	10896	11984	13221	14530	15427	2542	0	0	0	0	0	0	0	
NET PRINCIPAL BALANCE			43696	87449	73084	60534	47576	33771	18851	2835	0	0	0	0	0	0	0	0	
PROGRAM COSTS																			
OUTGOING:																			
DIRECT COSTS																			
SPECIAL ALLOWANCE	113	242	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	628
REINSURANCE CLAIMS				1258	4140	1645	947	580	387	387	290	0	0	0	0	0	0	0	9674
ADMINISTRATIVE COST ALLOWANCE	21	29	40	81	270	224	176	125	79	19	0	0	0	0	0	0	0	0	1847
TOTAL DIRECT COSTS	134	271	311	1338	4430	1849	1143	705	457	397	290	0	0	0	0	0	0	0	11348
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	8	12	17	34	114	102	85	64	38	6	0	0	0	0	0	0	0	0	483
TAX CREDIT SUBSIDY	17	17	23	47	169	140	114	85	73	23	3	0	0	0	0	0	0	0	447
TOTAL INDIRECT COSTS	25	29	40	81	283	242	199	149	111	29	3	0	0	0	0	0	0	0	1170
TOTAL OUTGOING	159	300	351	1419	4715	2111	1342	855	568	426	293	0	0	0	0	0	0	0	12518
INFLOWS:																			
COLLECTIONS		0	0	13	54	108	175	202	216	189	148	94	67	40	40	0	0	0	1348
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPECIAL ALLOWANCE OFFSET	4	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
TOTAL INFLOW	4	0	9	13	54	108	175	202	216	189	148	94	67	40	40	0	0	0	1370
NET CASH FLOW	-155	-291	-342	-1406	-4661	-2003	-1167	-653	-354	-238	-145	94	67	40	40	0	0	0	-11148

Exhibit IV-5

SCENARIO 4 -- CBO RATES MINUS 1%

*****COMMITTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL*****

** FUND COSTS CALCULATION **

DISCOUNT RATE 6

ADVANCES DISBURSED, FISCAL YEAR 1982:

FIRST QUARTER	735
SECOND QUARTER	329
THIRD QUARTER	463
FOURTH QUARTER	1498

	FISCAL YEAR 1982				FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
	QTR 1	QTR 2	QTR 3	QTR 4															
NET CASH FLOW - 7% PERIOD	6179	-34401	-67897	-38797	-627907	-686544	-329254	-132441	-109040	-64541	-68139	-67991	-29630	-14410	1545	1545	1043	1545	-1838917
NET CASH FLOW - 9% PERIOD	4019	-23879	-32132	-22630	-284883	-324018	-207820	-44084	-33295	-23962	-20448	-14399	-10465	-6775	1043	1043	695	1043	-1040277
NET CASH FLOW - 14% PERIOD	-152	-291	-342	-1406	-4441	-2080	-1167	-653	-334	-230	-145	94	67	40	40	0	0	0	-11151
ADVANCES DISBURSED	-735	-329	-463	-1498															-2965
FEDERAL FINANCING COSTS	121	-735	-1050	-836	-9327	-10543	-6997	-2383	-1854	-1414	-1154	-885	-523	-277	34	34	23	34	-37613
AGGREGATE CASH FLOW	9432	-58655	-81824	-45167	-726778	-823130	-545238	-179481	-144453	-110175	-89966	-62791	-46751	-21422	2682	2682	1761	2682	
DISCOUNTED CASH FLOW	9432	-57984	-79423	-61957	-685439	-732583	-457792	-142166	-187944	-77669	-59792	-39339	-24120	-12074	1413	1313	825	1149	

TOTAL CASH FLOW, INCLUDING THE DISCOUNT RATE:

-2938923	---	-2.93 BILLION
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TOTAL CASH FLOW, DISCOUNTED TO BEGINNING OF FISCAL YEAR 1982:

-2523933	---	-2.52 BILLION
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Exhibit IV-5 (cont'd)

SCENARIO 4 -- CBO RATES MINUS 1%

***** GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL *****																		
----- PORTFOLIO AMORTIZATION TABLE -----																		
7% LONG	FISCAL YEAR 1982																	
	YR 1	YR 2	YR 3	YR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
INITIAL PRINCIPAL BALANCE	707750	404292	077799	1848443	3444289	3421048	3270244	3209923	3076371	2588898	2082994	1549144	993295	414349	0	0	0	0
CANCELLATIONS	48111	21523	24383	97918														
NET DISBURSEMENTS	859640	284758	471415	1750474														
CUMULATIVE BALANCE OUTSTANDING																		
CLAIMS																		
PAYMENTS ON PRINCIPAL	859640	1244398	1715813	3444289	45241	150804	60321	33931	22421	15080	15080	11310	11310	11310	0	0	0	0
NET PRINCIPAL BALANCE																		
	859640	1244398	1715813	3444289	3421048	3270244	3209923	3076371	2588898	2082994	1549144	993295	414349	0	0	0	0	0
----- PROGRAM COSTS -----																		
OUTFLOWS:																		
DIRECT COSTS																		
INTEREST SUBSIDY	15044	21777	30827	40468	241057	234195	170104	0	0	0	0	0	0	0	0	0	0	772844
SPECIAL ALLOWANCE	19490	31172	40548	55099	128279	89544	86738	84143	75830	62534	48423	34044	18848	9544	0	0	0	788477
REINSURANCE CLAIMS				0	44924	149748	59899	33693	22442	14975	14975	11231	11231	11231	0	0	0	374378
ADMINISTRATIVE COST ALLOWANCE	1504	473	825	2063	5987	5723	7182	11383	9579	7767	5734	3677	1523	0	0	0	0	64570
TOTAL DIRECT COSTS	34038	53423	71420	118823	426247	479230	323923	129218	107871	85214	69302	48952	31412	16777	0	0	0	1992282
INDIRECT COSTS																		
ADMINISTRATION & OVERHEAD	1289	586	728	2744	5439	5512	5735	5826	5197	4432	3495	2374	1899	0	0	0	0	44411
TAX EXEMPT SUBSIDY	451	453	981	7279	7232	7824	4884	4481	5949	4995	3814	2471	1479	425	0	0	0	54199
TOTAL INDIRECT COSTS	1741	1239	1629	10025	12671	12538	12539	12426	11145	9338	7309	5847	2529	425	0	0	0	100410
TOTAL OUTFLOWS	37779	54662	73049	128847	432918	491767	336462	141645	119017	94553	76641	53999	34141	17212	0	0	0	2092892
INFLOWS:																		
COLLECTIONS				0	522	2084	4173	6259	7302	7824	4781	5216	3451	2488	1545	1545	1043	1545
ORIGINATION FEE	42962	19238	23571	87524														52159
FEDERAL INSURANCE PREMIUM	294	121	161	518														173314
SPECIAL ALLOWANCE OFFSET	482	1091	1420	1928	4490	3135	3036	2945	2654	2189	1702	1192	648	194	0	0	0	1184
TOTAL INFLOWS	43958	20460	25152	90050	5811	5221	7209	9204	9956	10013	8482	6487	4311	2802	1545	1545	1043	253975
NET CASH FLOW	6179	-34401	-47897	-38797	-427907	-485546	-329754	-132441	-109060	-84541	-68159	-47991	-29630	-14410	1545	1545	1043	1545

Exhibit IV-5 (cont'd)

SCENARIO 4 -- CBO RATES MINUS 1%

QUANTIFIED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																	
PORTFOLIO AMORTIZATION TABLE																	
YE LOANS	YR 1	FISCAL YEAR YR 2	1992 YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	TOTAL
INITIAL PRINCIPAL BALANCE	405167	270861	331844	1232295	2310859	2280498	2180162	2139948	2054218	1740997	1410564	1056338	681118	284883	0	0	0
CANCELLATIONS	32074	14354	17589	45312													
NET DISBURSEMENTS	573093	254505	314277	1164984													
CUMULATIVE BALANCE OUTSTANDING	573093	829598	1143875	2310859													
CLAIMS					30161	109536	40214	22621	15088	10054	10054	7548	7548	7548	0	0	0
PAYMENTS ON PRINCIPAL					63110					220380	364172	364172	364172	364172	364172	364172	364172
NET PRINCIPAL BALANCE	573093	829598	1143875	2310859	2280498	2180162	2139948	2054218	1740997	1410564	1056338	681118	284883	0	0	0	0
PROGRAM COSTS																	
OUTFLOWS:																	
DIRECT COSTS																	
INTEREST SUBSIDY	12895	18644	25737	51994	266428	266739	145804	0	0	0	0	0	0	0	0	0	662475
SPECIAL ALLOWANCE	10128	16634	21326	25178	39604	15100	14624	14198	12847	10448	8351	5881	3247	942	0	0	195748
REINSURANCE CLAIMS				0	2950	99832	39933	22462	14975	9983	9983	7487	7487	7487	7487	7487	249580
ADMINISTRATIVE COST ALLOWANCE	1003	649	950	2042	1996	1996	2394	3000	3221	2610	1954	1260	526	0	0	0	23112
TOTAL DIRECT COSTS	24025	35748	47613	79215	278149	317579	202755	40440	31043	23261	20286	14629	11280	8449	0	0	1134515
INDIRECT COSTS																	
ADMINISTRATION & OVERHEAD	660	391	486	1838	3626	3674	3823	3890	3495	3001	2383	1628	779	0	0	0	29887
TAX EXPENT SUBSIDY	301	436	601	1213	4871	4684	4536	4404	3985	3369	2590	1824	1013	276	0	0	34016
TOTAL INDIRECT COSTS	1161	826	1086	3044	8497	8358	8359	8294	7480	6311	4973	3453	1733	276	0	0	42823
TOTAL OUTFLOWS	25186	36574	48699	82259	286646	325937	211114	48734	38523	29572	23261	18082	13014	8747	0	0	1198337
INFLOWS:																	
COLLECTIONS				0	348	1391	2782	4173	4868	5216	4528	3477	2434	1739	1043	1043	34773
ORIGINATION FEE	28455	12825	15714	58349													113543
FEDERAL INSURANCE PREMIUM	196	88	107	799													799
SPECIAL ALLOWANCE OFFSET	354	582	746	881	1384	529	512	497	450	373	292	266	114	34	0	0	6957
TOTAL INFLOWS	29205	13495	16540	59429	1734	1919	3294	4670	5318	5589	4813	3683	2548	1772	1043	1043	138062
NET CASH FLOW	6819	-23079	-32132	-22430	-284903	-324018	-207820	-44064	-33205	-23962	-20448	-14399	-10445	-8975	1043	1043	-104825

Exhibit IV-5 (cont'd)
SCENARIO 4 -- CBO RATES MINUS 1%

***** GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL *****																	
----- PORTFOLIO AMORTIZATION TABLE -----																	
14% LOANS	FISCAL YEAR 1982																
	QTR 1	QTR 2	QTR 3	QTR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
INITIAL PRINCIPAL BALANCE	22452	10499	12863	47744	87449	73086	60534	47574	33771	18851	2835	0	0	0	0	0	0
CANCELLATIONS	1172	525	643	2388													
IF : 1% - CBO RATES	22284	9974	12220	45374													
CUMULATIVE BALANCE OUTSTANDING	22284	32250	44478	89854													
CLAIMS	0	0	0	1246	4189	1654	974	585	390	390	292	0	0	0	0	0	0
PAYMENTS ON PRINCIPAL	22284	31738	43496	87449	18174	16896	11984	13221	14536	15427	2542	0	0	0	0	0	0
NET PRINCIPAL BALANCE					73086	60534	47574	33771	18851	2835	0	0	0	0	0	0	0
----- PROGRAM COSTS -----																	
OUTFLWS:																	
DIRECT COSTS																	
SPECIAL ALLOWANCE	115	242	271	3	0	0	0	0	0	0	0	0	0	0	0	0	428
REINSURANCE CLAIMS				1258	4188	1645	947	588	387	387	290	0	0	0	0	0	9474
ADMINISTRATIVE COST ALLOWANCE	21	29	40	81	270	224	174	125	70	10	0	0	0	0	0	0	1847
TOTAL DIRECT COSTS	136	271	311	1338	648	1869	1143	795	457	397	290	0	0	0	0	0	11348
INDIRECT COSTS																	
ADMINISTRATION & OVERHEAD	8	12	17	34	114	182	85	64	38	6	0	0	0	0	0	0	483
TAX EXEMPT SUBSIDY	12	17	23	47	169	140	114	85	55	23	3	0	0	0	0	0	487
TOTAL INDIRECT COSTS	20	29	40	81	285	242	199	149	93	29	3	0	0	0	0	0	1178
TOTAL OUTFLWS	156	299	351	1419	4715	2111	1342	855	550	426	293	0	0	0	0	0	12518
INFLOWS:																	
COLLECTIONS				13	54	108	175	292	216	189	148	94	67	40	40	0	1348
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
SPECIAL ALLOWANCE OFFSET	4	8	9	13	54	108	175	292	216	189	148	94	67	40	40	0	1370
TOTAL INFLOWS																	
NET CASH FLOW	-152	-291	-342	-1406	-4661	-2003	-1167	-853	-334	-238	-145	94	67	40	40	0	-11148

Exhibit IV-6

THE IMPACT OF INFLATION
(in millions of dollars)

<u>Inflation Rate</u>	<u>5%</u>	<u>6%</u>	<u>7%</u>
1. Total Direct Costs*	\$3,334	\$3,334	\$3,334
2. Total Indirect Costs	203	206	208
3. Offsets to Federal Costs	<u>(420)</u>	<u>(420)</u>	<u>(420)</u>
4. Net Cash Flow	<u>\$3,117</u>	<u>\$3,119</u>	<u>\$3,122</u>
5. Discounted Cash Flow	<u>\$2,747</u>	<u>\$2,685</u>	<u>\$2,626</u>

* Based upon CBO's projected Treasury Bill Rates.

Exhibit IV-7

SCENARIO 5 -- 5% INFLATION

*****CLINICATED STUDENT LOAN PROGRAM - FEDERAL COSTS RECD.*****

** FIVE COSTS CALCULATION **

DISCOUNT RATE 5

ADVANCES DISBURSED, FISCAL YEAR 1982:

FIRST QUARTER	735
SECOND QUARTER	329
THIRD QUARTER	403
FOURTH QUARTER	1498

	FISCAL YEAR 1982				FT 83	FT 84	FT 85	FT 86	FT 87	FT 88	FT 89	FT 90	FT 91	FT 92	FT 93	FT 94	FT 95	FT 96	TOTAL
	QTR 1	QTR 2	QTR 3	QTR 4															
NET CASH FLOW - 7% PERCENT	6179	-34400	-47894	-38777	-427275	-520444	-375017	-154459	-114538	-81948	-66182	-46125	-29834	-14281	1545	1545	1043	1545	-194899
NET CASH FLOW - 9% PERCENT	4819	-23878	-32129	-22416	-284848	-253277	-738329	-58775	-34873	-22227	-19851	-13483	-9928	-4832	1043	1043	695	1043	-1113535
NET CASH FLOW - 14% PERCENT	-152	-291	-342	-1406	-6160	-2001	-1164	-650	-332	-237	-145	94	67	40	40	0	0	0	-111379
ADVANCES DISBURSED	-735	-329	-403	-1498															-2965
FEDERAL FINANCING COSTS	121	-775	-1050	-836	-9326	-11515	-7989	-2788	-1973	-1257	-1189	-773	-506	-273	34	34	23	34	-39993
AGGREGATE CASH FLOW	9432	-38853	-51818	-45133	-736689	-897277	-622499	-216644	-153716	-105761	-86467	-68217	-39393	-21264	2682	2642	1761	2642	
DISCOUNTED CASH FLOW	9432	-38127	-79819	-61357	-692084	-812857	-537738	-178250	-128440	-78921	-61486	-48757	-25393	-13895	1546	1471	934	1334	

TOTAL CASH FLOW, INCLUDING THE DISCOUNT RATE:

-3116534	---	-3.12 BILLION
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TOTAL CASH FLOW, DISCOUNTED TO BEGINNING OF FISCAL YEAR 1982:

-2744858	---	-2.75 BILLION
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Exhibit IV-7 (cont'd)
SCENARIO 5 -- 5% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																		
PORTFOLIO AMORTIZATION TABLE																		
7% LONG	FISCAL YEAR 1982																	
	YR 1	YR 2	YR 3	YR 4	FT 83	FT 84	FT 85	FT 86	FT 87	FT 88	FT 89	FT 90	FT 91	FT 92	FT 93	FT 94	FT 95	FT 96
INITIAL PRINCIPAL BALANCE	987750	404792	977799	1848443	3466289	3421048	3278244	3209923	3076371	2588898	2082994	1598444	993795	414399	0	0	0	0
CANCELLATIONS	48111	21533	26383	97948														
NET DISBURSEMENTS	859640	384758	471415	1750474														
CUMULATIVE BALANCE OUTSTANDING	859640	1244798	1715813	3466289														
CLAIMS				0	45241	150804	40321	33931	22421	15080	15080	11210	11210	11210	0	0	0	0
PAYMENTS ON PRINCIPAL				0	0	0	0	99431	444853	910824	518270	544538	544124	400839	0	0	0	0
NET PRINCIPAL BALANCE	859640	1244798	1715813	3466289	3421048	3278244	3209923	3076371	2588898	2082994	1598444	993795	414399	0	0	0	0	0
PROGRAM COSTS																		
OUTFLWS:																		
DIRECT COSTS																		
INTEREST SUBSIDY	15044	21777	30927	60440	241057	234195	176104	0	0	0	0	0	0	0	0	0	0	772844
SPECIAL ALLOWANCE	19490	31172	40548	55099	128779	135182	134327	107184	81735	60092	44725	32715	18112	5320	0	0	0	894031
REIMBURSEMENT CLAIMS				0	44924	149748	59899	33493	22442	14975	14975	11231	11231	11231	0	0	0	374370
ADMINISTRATIVE COST ALLOWANCE	1504	673	825	2043	5947	5723	7182	11363	9579	7707	5734	3477	1533	0	0	0	0	44570
TOTAL DIRECT COSTS	34038	53622	71420	118823	420247	524848	371513	152260	113797	82774	67433	47423	30877	14561	0	0	0	2167835
INDIRECT COSTS																		
ADMINISTRATION & OVERHEAD	1289	584	725	1725	5388	5408	5574	5489	4954	4187	3271	2202	944	0	0	0	0	42884
Tax EXEMPT SUBSIDY	451	453	901	7779	7232	7824	6804	6401	5949	4905	3814	2471	1479	435	0	0	0	56199
TOTAL INDIRECT COSTS	1741	1238	1626	10005	12620	12434	12378	12210	10905	9093	7085	4673	2443	435	0	0	0	99084
TOTAL OUTFLWS	35779	54860	73045	128827	432867	537282	383891	164470	124701	91867	74518	52096	33319	14996	0	0	0	2266919
INFLWS:																		
COLLECTIONS				0	522	2044	4173	6299	7382	7824	4781	5214	3631	2408	1545	1545	1043	1545
ORIGINATION FEE	42982	19238	23571	87524														52159
FEDERAL INSURANCE PREMIUM	794	121	161	598														173314
SPECIAL ALLOWANCE OFFSET	482	1091	1420	1928	4490	4731	4701	3751	2841	2103	1435	1145	634	187	0	0	0	1184
TOTAL INFLWS	43958	20440	25152	90050	5011	6818	8874	10011	10144	9927	8414	6361	4285	2794	1545	1545	1043	1545
NET CASH FLOW	6179	-34400	-47894	-38777	-427855	-530464	-375017	-154459	-114538	-81940	-64182	-46125	-29034	-14201	1545	1545	1043	1545

Exhibit IV-7 (cont'd)
SCENARIO 5 -- 5% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS SUMMARY																			
PORTFOLIO AMORTIZATION TABLE																			
YE LOANS	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL		
INITIAL PRINCIPAL BALANCE	495147	270841	331844	1232295	2310829	2280498	2180142	2139948	2054218	1740997	1410544	1054338	681118	284083	0	0	0		
CANCELLATIONS	27074	14254	17589	45312															
NET DISBURSEMENTS	573093	254595	314277	1144984															
CUMULATIVE BALANCE OUTSTANDING	573093	629598	1143875	2310829															
CLAIMS				0	28141	109536	48214	22421	15088	10954	10954	7548	7548	7548	0	0	0		
PAYMENTS ON PRINCIPAL	573093	629598	1143875	2310829	2280498	2180142	2139948	2054218	1740997	1410544	1054338	681118	284083	0	0	0			
NET PRINCIPAL BALANCE																			
PROGRAM COSTS																			
OUTFLWS:																			
DIRECT COSTS																			
INTEREST SUBSIDY	12895	18444	25737	51994	284428	288739	145884	0	0	0	0	0	0	0	0	0	0	0	442495
SPECIAL ALLOWANCE	10128	14434	21328	25178	29404	45312	44350	29571	14817	9821	7842	4974	2743	812	0	0	0	0	275752
REIMBURSEMENT CLAIMS					29570	99632	29571	22462	14975	9983	7487	7487	7487	7487	7487	7487	7487	7487	249788
ADMINISTRATIVE COST ALLOWANCE	1083	449	550	2042	1994	1908	2394	3821	2618	1954	1240	536	0	0	0	0	0	0	23712
TOTAL DIRECT COSTS	24025	35748	47613	79215	278149	347991	234481	95833	25812	21414	18999	13721	16776	8391	0	0	0	0	1251499
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	848	390	483	1817	3592	3485	3716	3745	3333	2825	2238	1389	641	0	0	0	0	0	28777
TAX EXCISE SUBSIDY	301	436	481	1213	4821	4484	4536	4404	3985	3389	2598	1824	1013	298	0	0	0	0	34816
TOTAL INDIRECT COSTS	1149	826	964	3030	8413	8269	8252	8149	7318	6145	4826	3214	1655	298	0	0	0	0	42792
TOTAL OUTFLWS	25174	36573	48577	82245	286562	356260	242733	103982	33130	27739	23819	17035	18430	8689	0	0	0	0	1324291
INFLOWS:																			
COLLECTIONS				0	348	1391	2782	4173	4848	5216	4528	3487	2404	1739	1043	1043	895	1043	34773
ORIGINATION FEE	28495	12825	15714	58349															112543
FEDERAL INSURANCE PREMIUM	194	88	187	379	1384	1593	1622	1835	589	316	247	174	97	38	0	0	0	0	790
SPECIAL ALLOWANCE OFFSET	354	582	746	881															9451
TOTAL INFLOWS	29085	13495	16348	59629	1734	2984	4404	5288	5457	5532	4748	2651	2531	1747	1043	1043	895	1043	148757
NET CASH FLOW	4911	-23078	-32129	-22616	-284848	-353277	-238329	-58775	-34873	-22277	-19051	-13483	-9978	-4832	1043	1043	895	1043	-1113535

Exhibit IV-7 (cont'd)
SCENARIO 5 -- 5% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS (MIL)																			
PORTFOLIO AMORTIZATION TABLE																			
14% LONG	FISCAL YEAR 1982																		
	YR 1	YR 2	YR 3	YR 4	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	TOTAL
INITIAL PRINCIPAL BALANCE	22457	10499	12863	47744	87449	73086	60534	47576	33771	18851	2825	0	0	0	0	0	0	0	
CANCELLATIONS	1173	525	443	2368															
NET DISBURSEMENTS	22284	9974	12220	45376															
CUMULATIVE BALANCE OUTSTANDING	22284	32258	44478	89854															
CLAIMS	0	0	0	1244	4189	1654	974	545	799	299	297	0	0	0	0	0	0	0	
PAYMENTS ON PRINCIPAL	22284	31738	43496	87449	18174	10896	11944	12271	14530	15427	254	0	0	0	0	0	0	0	
NET PRINCIPAL BALANCE					73086	60534	47576	33771	18851	2825									
PROGRAM COSTS																			
OUTFLWS:																			
DIRECT COSTS																			
SPECIAL ALLOWANCE	115	242	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428
REINSURANCE CLAIMS				1258	4188	1645	947	546	387	387	296	0	0	0	0	0	0	0	9474
ADMINISTRATIVE COST ALLOWANCE	21	79	40	81	279	224	174	123	79	10	26	0	0	0	0	0	0	0	1147
TOTAL DIRECT COSTS	136	271	311	1339	4430	1869	1143	755	457	397	292	0	0	0	0	0	0	0	11647
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	0	12	17	34	115	180	83	62	24	6	0	0	0	0	0	0	0	0	473
TAX EXPST 945181	12	12	22	47	149	140	114	125	97	23	1	0	0	0	0	0	0	0	739
TOTAL INDIRECT COSTS	12	24	39	81	264	240	196	147	121	29	1	0	0	0	0	0	0	0	1159
TOTAL OUTFLWS	154	300	351	1419	4714	2109	1340	852	548	426	293	0	0	0	0	0	0	0	12580
INFLOWS:																			
COLLECTIONS	0	0	0	13	54	188	175	282	214	189	148	94	67	40	40	0	0	0	1340
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
SPECIAL ALLOWANCE OFFSET	4	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
TOTAL INFLOWS	4	8	9	13	54	188	175	282	214	189	148	94	67	40	40	0	0	0	1370
NET CASH FLOW	-152	-291	-342	-1406	-4660	-2001	-1164	-650	-332	-237	-145	94	67	40	40	0	0	0	-11150

Exhibit IV-8

SCENARIO 6 -- 7% INFLATION

FINAL COSTS CALCULATION

DISCOUNT RATE	7
ADVANCES DISBURSED, FISCAL YEAR 1982:	
FIRST QUARTER	735
SECOND QUARTER	327
THIRD QUARTER	483
FOURTH QUARTER	1498

	FISCAL YEAR 1982				FI 83	FI 84	FI 85	FI 86	FI 87	FI 88	FI 89	FI 90	FI 91	FI 92	FI 93	FI 94	FI 95	FI 96	TOTAL
	QTR 1	QTR 2	QTR 3	QTR 4															
NET CASH FLOW - 7% HORIZ.	6179	-36483	-47991	-38817	-427958	-538672	-375342	-154899	-113828	-82442	-44544	-44494	-29213	-14281	1545	1545	1043	1545	-1952017
NET CASH FLOW - 9% HORIZ.	6819	-73088	-32134	-22643	-284917	-253435	-238545	-99048	-37283	-22547	-19344	-13449	-18842	-6832	1043	1043	695	1043	-1115628
NET CASH FLOW - 14% HORIZ.	-152	-791	-342	-1486	-4442	-2085	-1189	-825	-336	-238	-145	94	67	48	48	0	0	0	-111148
ADVANCES DISBURSED	-735	-327	-483	-1498															-2945
FEDERAL FINANCING COSTS	121	-735	-1859	-837	-9328	-11519	-7996	-2798	-1943	-1348	-1119	-781	-589	-273	34	34	23	34	-8843
AGGREGATE CASH FLOW	9432	-38058	-51820	-43281	-728445	-897431	-623892	-217412	-154250	-104415	-37194	-68839	-30697	-21344	2482	2482	1741	2482	
DISCOUNTED CASH FLOW	9432	-57844	-79948	-61557	-479313	-784826	-588596	-185863	-118192	-71842	-54388	-35483	-21393	-18811	1274	1173	731	1885	
TOTAL CASH FLOW, INCLUDING THE DISCOUNT RATE:	-3821843	---	---	---	-3.12 BILLION														
TOTAL CASH FLOW, DISCOUNTED TO BEGINNING OF FISCAL YEAR 1982:	-2629947	---	---	---	-2.43 BILLION														

Exhibit IV-8 (cont'd)

SCENARIO 6 -- 7% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS REBEL																			
PORTFOLIO AMORTIZATION TABLE																			
7% LOANS	YR 1	FISCAL YEAR 1982 YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	YR 17	YR 18	TOTAL
INITIAL PRINCIPAL BALANCE	987750	984292	977799	968443	956289	942104	926824	910437	892952	874467	854982	834497	813012	790527	767042	742557	717072	690587	987750
CANCELLATIONS	48111	21520	76363	97968															
NET DISBURSMENTS	859640	384758	471415	1758476															
CUMULATIVE BALANCE OUTSTANDING	859640	1244398	1715813	3466289															
PAYMENTS ON PRINCIPAL					45241	150804	46321	33731	22621	15080	15080	11310	11310	11310	11310	11310	11310	11310	
NET PRINCIPAL BALANCE	859640	1244398	1715813	3466289	3421048	3270244	3099923	2876371	2588898	2287994	1974644	1651534	1318424	975314	632204	289094			
PROGRAM COSTS																			
DIRECT COSTS																			
INTEREST SUBSIDY	15044	21777	38827	60440	241957	234195	170104												772844
SPECIAL ALLOWANCE	19490	31172	60548	55099	128279	125182	134327	187184	81755	60892	44725	32715	18112	5328					894831
REINSURANCE CLAIMS					44924	149748	59099	23493	22462	14975	14975	11231	11231	11231					374378
ADMINISTRATIVE COST ALLOWANCE	1504	673	825	3843	5987	5723	7182	11383	9579	7767	5734	3677	1520						44578
TOTAL DIRECT COSTS	34038	53622	71420	118823	426247	524848	371513	152260	113797	82774	67433	47423	38877	16541					2187835
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	1289	547	732	2746	5491	5414	5816	6449	5447	4489	3733	2541	1143						44001
TAX EXPEN'T SUBSIDY	451	453	981	7279	7232	7826	4884	4481	5949	4995	3814	2471	1479	435					54199
TOTAL INDIRECT COSTS	1741	1241	1633	10045	12722	13242	12700	12649	11395	9595	7547	5232	2621	435					102201
TOTAL OUTLAYS	37779	54863	73053	129868	438969	537490	384214	164909	125192	92369	74988	52655	39498	16976					2290036
INFLOWS:																			
COLLECTIONS					522	2066	4173	6259	7382	7824	6781	5216	3851	2888	1545	1545	1840	1545	52159
ORIGINATION FEE	42982	19228	23571	87524															173314
FEDERAL INSURANCE PREMIUM	294	131	141	598															1184
SPECIAL ALLOWANCE OFFSET	482	1091	1420	1928	4490	4731	4701	3751	2841	2103	1625	1145	634	187					21341
TOTAL INFLOWS	43758	20440	25152	98050	5011	6818	8674	10011	18144	9927	8416	6361	4285	2794	1545	1545	1840	1545	258019
NET CASH FLOW	4179	-34423	-47901	-38817	-427458	-530672	-375342	-154899	-115808	-82442	-68564	-46494	-29213	-14281	1545	1545	1840	1545	-1952917

Exhibit IV-8 (cont'd)
SCENARIO 6 -- 7% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS MODEL																			
PORTFOLIO AMORTIZATION TABLE																			
YE LOANS	FYR 1	FYR 2	FYR 3	FYR 4	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	TOTAL
INITIAL PRINCIPAL BALANCE	405147	270861	331844	1232295	2310859	2280496	2180142	2139948	2054218	1740997	1410544	1054328	681118	284083	0	0	0	0	
CANCELLATIONS	2074	1454	1789	45312															
NET DISBURSEMENTS	573093	254559	314277	1144784															
CUMULATIVE BALANCE OUTSTANDING	573093	629518	1143875	2310859															
CLAIMS				0	30141	100536	48214	22421	12080	10054	10054	7540	7540	7540					
PAYMENTS ON PRINCIPAL				0	0	0	0	43110	208140	200380	244172	247400	205992	274543					
NET PRINCIPAL BALANCE	573093	629518	1143875	2310859	2280496	2180142	2139948	2054218	1740997	1410544	1054328	681118	284083	0	0	0	0	0	
PROGRAM COSTS																			
OUTFLWS:																			
DIRECT COSTS																			
INTEREST SUBSIDY	12095	18444	25737	51994	204420	200739	145804	0	0	0	0	0	0	0	0	0	0	0	642493
SPECIAL ALLOWANCE	10120	14644	21326	25178	29404	45513	44340	29571	14817	9821	7042	4974	2743	813					275752
REIMBURSEMENT CLAIMS				0	29550	99832	39933	22462	14775	9943	9943	7487	7487	7487					209500
ADMINISTRATIVE COST ALLOWANCE	1000	449	550	2042	1994	1908	2394	3800	3221	2610	1954	1240	526	0					23712
TOTAL DIRECT COSTS	24025	25748	47613	79215	278140	347991	234481	55433	35012	21614	18999	13721	10776	8301					1211499
INDIRECT COSTS																			
ADMINISTRATION & OVERHEAD	840	391	488	1844	3441	3744	3932	4839	3443	3175	2544	1755	783	0					20880
TAX EXEMPT SUBSIDY	381	436	601	1213	4821	4484	4534	4405	3945	3309	2590	1824	1013	270					24014
TOTAL INDIRECT COSTS	1161	827	1089	3057	8462	8428	8466	8443	7448	6484	5135	2580	1797	270					24094
TOTAL OUTFLWS	25186	34575	48702	82272	286601	356419	242949	64276	42460	28099	24134	17301	12573	8599	0	0	0	0	1276393
INFLWS:																			
COLLECTIONS				0	340	1391	2782	4173	4848	5216	4520	3477	2434	1739	1043	1043	695	1043	24773
ON-IGINATION FEE	20435	12825	15714	58349															119543
FEDERAL INSURANCE PREMIUM	194	86	187	399															740
SPECIAL ALLOWANCE OFFSET	554	582	744	681	1386	1593	1422	1025	589	316	247	174	97	38	0	0	0	0	9651
TOTAL INFLWS	29295	13495	16540	59429	1734	2984	4404	5208	5457	5532	4740	3651	2531	1767	1043	1043	695	1043	140757
NET CASH FLOW	4819	-21080	-32134	-22643	-284917	-353435	-238545	-91048	-37203	-22567	-19384	-13649	-10042	-4832	1043	1043	695	1043	-1115636

Exhibit IV-8 (cont'd)
SCENARIO 6 -- 7% INFLATION

GUARANTEED STUDENT LOAN PROGRAM - FEDERAL COSTS REEL																				
PORTFOLIO AMORTIZATION TABLE																				
- 14% LONG	FISCAL YEAR 1982																			
	QTR 1	QTR 2	QTR 3	QTR 4	FT 83	FT 84	FT 85	FT 86	FT 87	FT 88	FT 89	FT 90	FT 91	FT 92	FT 93	FT 94	FT 95	FT 96	TOTAL	
INITIAL PRINCIPAL BALANCE	23457	10499	12843	47744	87449	73066	60534	47574	33771	18851	2635	0	0	0	0	0	0	0	0	
CANCELLATIONS	1173	325	443	7386																
NET DISBURSEMENTS	22284	9774	12220	45374																
CUMULATIVE BALANCE OUTSTANDING	22284	22256	44478	89854																
CLAIMS	0	0	0	1264	4189	1456	974	545	799	799	797	0	0	0	0	0	0	0	0	
PAYMENTS ON PRINCIPAL	22284	31738	43496	87449	18174	10996	11494	12771	14530	15477	2540	0	0	0	0	0	0	0	0	
NET PRINCIPAL BALANCE					73066	60534	47574	33771	18851	2635	0	0	0	0	0	0	0	0	0	
PROGRAM COSTS																				
OUTFLWS:																				
DIRECT COSTS																				
SPECIAL ALLOWANCE	115	242	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428
REIMBURSEMENT CLAIMS				1254	4140	1445	947	580	387	387	290	0	0	0	0	0	0	0	0	9474
ADMINISTRATIVE COST ALLOWANCE	21	39	40	81	270	224	174	125	79	19	0	0	0	0	0	0	0	0	0	1847
TOTAL DIRECT COSTS	136	271	311	1336	4430	1849	1143	705	457	397	290	0	0	0	0	0	0	0	0	11348
INDIRECT COSTS																				
ADMINISTRATION & OVERHEAD	0	12	17	35	117	184	87	46	40	6	0	0	0	0	0	0	0	0	0	473
TAX CREDIT SURVEILL	12	17	23	47	189	140	114	85	75	23	3	0	0	0	0	0	0	0	0	487
TOTAL INDIRECT COSTS	12	29	40	81	286	244	201	132	95	29	3	0	0	0	0	0	0	0	0	1180
TOTAL OUTFLWS	136	300	351	1420	4716	2113	1344	837	552	427	293	0	0	0	0	0	0	0	0	12529
INFLOWS:																				
COLLECTIONS				13	54	188	175	282	216	189	148	94	67	48	48	0	0	0	0	1348
FEDERAL INSURANCE PREMIUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPECIAL ALLOWANCE OFFSET	4	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
TOTAL INFLOWS	4	8	9	13	54	188	175	282	216	189	148	94	67	48	48	0	0	0	0	1370
NET CASH FLOW	-132	-291	-342	-1406	-4662	-2005	-1169	-855	-336	-238	-145	94	67	48	48	0	0	0	0	-11159

Appendix A

MAJOR COST ALLOCATION ASSUMPTIONS

Appendix A

MAJOR COST ALLOCATION ASSUMPTIONS

In order to address the question of what are the federal costs for loans made in a given period, we selected the FY 82 loan portfolio (i.e., new loans guaranteed in FY 82). Direct costs of those loans were identified and indirect costs were appropriately allocated. This section describes our major assumptions and cost allocation methodology.

A. FY 82 PORTFOLIO ASSUMPTIONS

1. FY 82 Volume of New Loans

In FY 82, there were \$6.1 billion of new GSL loans and \$94.6 million of new PLUS loans. FISL loans accounted for 4% of the 1982 GSL new loan volume. We obtained the total dollar volume of new loans guaranteed in 1982 from the 4th Quarter Loan Volume Update Report and the Guarantee Agency PLUS Program Status report prepared by ED.

Because ED does not report on loan volume by interest rate, we developed an estimate of the dollar volume of 7% and 9% GSL loans guaranteed in 1982 using a

sample of the lender's fourth quarter 1982 interest billing requests. The lender's interest billing request identifies the dollar volume of loans outstanding that were disbursed on or after October 1, 1981 for each interest rate category. Using this methodology, we determined that 60% of GSL loans guaranteed in 1982 were 7% loans and 40% were 9% loans. We assumed that all PLUS loans guaranteed in FY 82 were 14% loans. The 1982 loan volume is presented in Exhibit A-1.

2. Disbursement Percentage by Quarter

We determined the percentage of total FY 82 disbursements that were disbursed during each quarter of FY 82 using the actual 1982 disbursements reported in the 4th Quarter Loan Volume Update Report. These percentages indicate that slightly over one half of the annual loan volume was disbursed during the 4th quarter of FY 82 (i.e., July 1, 1982 - September 30, 1982). This percentage is consistent with the historical percentage currently used by ED Office of Student Financial Assistance staff. We have assumed that PLUS loans follow the same quarterly disbursement pattern as GSL loans. The quarterly distribution of total FY 82 disbursements are presented in Exhibit A-2.

3. Cancellation Rate

We developed an average cancellation rate for loans guaranteed in FY 82 using the Guarantee Agency Quarterly Reports for FY 82. We found that, in FY 82, the cancellation rate for GSL loans was approximately 5.3%. For PLUS loans, this rate was slightly over 5.0%.

4. Long-Term Inflation rate

We reviewed the Wall Street Journal, Citibank's Economic Forecast and publications of other investment services in order to determine a long-term inflation rate. The automated model applies this rate to FY 82 program administration and overhead costs in order to estimate these costs in future years. This rate is also used as the discount rate to determine the present value of future period outlays.

According to the Citibank Economic Forecast Service, inflation in 1983 is predicted to run between 5 and 6%. Fidelity Bank is predicting a 7% rate in 1983. As a result, we analyzed federal program costs using a 5%, 6% and 7% long-term inflation rate.

5. Percent of Period in Interim Status

We interviewed individuals at the U.S. Department of Education, the Congressional Budget Office, and several loan servicers in order to determine the average length of the interim (in-school and grace) loan period. We also reviewed related historical data that we collected in the late 1970's for the Department of Education. According to our sources, the estimated length of the interim period ranged from 2 years to 3.7 years. The average of these estimates was 3 years. We have assumed that the average length of the interim period is 3 years. Due to the fact that 50% of the FY 82 disbursements occurred during the 4th quarter FY 82, the automated model assumes that the average interim period begins at the beginning of the 4th quarter of FY 82 and extends through the end of the 3rd quarter of FY 85.

6. Percent of Period in Repayment Status

The federal regulations authorize a loan repayment period of at least 5 years but no more than 10 years, in most cases. We interviewed individuals at the U.S. Department of Education, the Congressional Budget Office and several loan servicers in order to determine the average length of the loan repayment period. We also

reviewed historical data that we collected for ED in the late 1970's. According to our sources the estimated average length of the repayment period ranged from 6.1 years to 10 years. The average of these estimates was slightly over 7 years. Based upon these data we have assumed that the average length of the repayment period is 7 years.

B. ASSUMPTIONS RELATED TO FEDERAL DIRECT COSTS

1. Penalty Interest

During 1982 the federal government paid approximately \$463,000 of penalty interest to lenders. The penalty interest paid was approximately .02% of total payments of interest and special allowance during FY 82. We have assumed that penalty interest costs are insignificant and, as a result, have not included these costs in our analysis.

2. Treasury Bill Rates

The quarterly rate of special allowance paid to lenders is a function of the average bond equivalent of the 91-day Treasury bills auctioned during the quarter. In order to estimate future special allowance costs to

the federal government, we obtained predictions of future Treasury bill rates. The predicted Treasury bill rates that we used were developed by the Citibank Economic Forecast Service and the Congressional Budget Office. The federal cost models that we developed converts these rates to the bond equivalent rates.

3. Overall Default Rate

We obtained an aggregate default rate from the Guarantee Agencies -- Default Rate Report prepared by ED. This rate represents the total dollar volume of defaulted claims paid by the guarantee agencies as a percentage of total matured paper. Matured paper is defined as the original principal amount of loans guaranteed less any partial or complete cancellations less the principal amount of interim loans (in-school or grace) outstanding as of the end of the reporting period. The overall default rate as of September 30, 1982 was 9.5%.

4. Overall Claims Rate

We developed an overall claims rate using the FY 82 Obligations report prepared by ED and the Overall Default Rate. The overall claims rate is comprised of default claims plus death, disability and bankruptcy

claims. The overall default rate as of September 30, 1982 was 9.5%. In FY 82 death, disability and bankruptcy claims were equal to approximately 8.7% of total default claims. Using these data, we developed a 10.3% overall claims rate.

5. Percentage Distribution of Claims

In order to estimate federal reinsurance payments for defaults on loans guaranteed in FY 82, we reviewed a sample of reinsurance claims filed in FY 82 to determine the age of the loans at the time the reinsurance claims were filed. Based upon our review, we developed a percentage distribution of claims filed during the life of a loan portfolio. The percentage was then compared to the FY 82 portfolio; the results are presented in Exhibit A-3.

6. Average Reinsurance Rates

During 1982 two agencies were not eligible to receive 100 percent reinsurance. These agencies received 80% reinsurance throughout the year. Two additional agencies hit the "trigger" toward the end of the year, causing their reinsurance rate to drop to 90% for the remainder of the year. The remaining 54 agencies received 100% reinsurance throughout the year.

During FY 82, we estimated the average reinsurance rate to be approximately 99.3%.

7. Federal Advances

Federal advances in FY 82 totaled approximately \$3 million. These advances were authorized by the 1968 fund and the 1976 fund as follows:

- 1968 federal advance fund: \$.4 million;
- 1976 federal advance fund: \$2.6 million;
- Total FY 82 federal advances: \$3.0 million.

The monies advanced from the 1968 federal advance fund were distributed to two new agencies. As a result, we have assumed that it is unlikely that the Department of Education will recall these monies in the near future. The monies advanced from the 1976 advance fund are repayable to the federal government when the total dollar amount advanced exceeds 20 percent of the guarantee agency's outstanding insurance obligation. We have also assumed that this situation is not likely to occur in the near future.

Because of the low likelihood of the FY 82 advances being repaid in the foreseeable future, the automated model treats these monies as a FY 82 cost. We have

assumed that the disbursement pattern for federal advances is similar to the quarterly disbursement percentages for the FY 82 new loan portfolio.

8. Administrative Cost Allowance (ACA)

In FY 82 the federal government paid \$55.8 million to guarantee agencies for administrative costs. We reviewed a sample of Guaranteed Agency Quarterly Reports in order to determine the relative distribution of administrative costs among loans in interim status versus loans in repayment status. The results of our review are presented in Exhibit A-4.

Our survey indicated that 29% of the ACA expense was related to providing preclaims assistance and collections activities -- functions only related to loans in repayment status. The remaining 71% of the ACA expense was related to monitoring the enrollment or repayment status of students, providing lender promotion activities, and covering other agency administrative costs. These categories of costs cannot be directly related to loans in a particular status and therefore should be allocated to all loans.

In order to predict ACA costs in future years, we used this information to allocate the FY 82 ACA between

loans in interim status and loans in repayment status. The results of our analysis revealed that for every \$1,000 of loans outstanding in repayment status, the federal government spent \$3.70 in ACA; for every \$1,000 of loans outstanding in interim status, the federal government spent \$1.75 in ACA.

C. ASSUMPTIONS RELATED TO FEDERAL INDIRECT COSTS

1. Program Administration and Overhead

In addition to direct program expenses, we estimated the amount of program administration and overhead costs that can be allocated to the FY 82 guaranteed student loan portfolio. Program administration and overhead costs include:

- Salaries and benefits of Office of Student Financial Assistance (OSFA) staff that are assigned to GSL.
- Allocated portions of the salaries and benefits of other OSFA staff, such as administrative, management, and support personnel.
- Allocated portions of the salaries and benefits of OSFA regional employees.
- Allocated portions of the salaries and benefits of headquarters personnel such as: the Office of the Secretary, the Office of the Inspector General, and the Office of Management.

- Allocated portions of other administrative and overhead costs, such as: data processing; contractual costs; travel; printing; rent; and utilities.
- Allocated portions of interagency costs, such as: skip tracing by the IRS or by the Social Security Administration.

Exhibit A-5 presents major categories of program administration and overhead costs and the applicable allocation percentage that we used.

The FY 82 program administration and overhead costs allocated to the total GSL program were \$34.4 million -- or approximately \$1.50 for every \$1,000 of loans outstanding. Therefore, we allocated \$9.3 million (\$1.50 x \$6.2 million) of these costs to the portfolio of loans guaranteed in FY 82.

2. Tax-Exempt Subsidy

According to OSFA staff, approximately 7% of new loans guaranteed are financed through the issuance of tax-exempt student loan bonds. The Congressional Budget Office estimates that "each billion dollars of outstanding tax-exempt student loan bonds costs the federal government \$30 million annually in foregone tax revenue".* We have assumed, therefore, that the

* Source: State Profits on Tax-Exempt Student Loan Bonds, (March 1980) prepared by the U.S. Congressional Budget Office.

federal revenue loss stemming from the tax-exemption of interest on student loan bonds is equal to:

$3\% \times 7\% \times \text{The Principal Balance of FY 82 Loans Outstanding}$

3. Federal Financing Costs

We reviewed the United States Budget in Brief for Fiscal Year 1984 in order to determine the federal financing costs for FY 82. In FY 82, interest paid to the public on the national debt was 13.1% of total federal outlays. We have applied this percentage to the total FY 82 program costs to calculate the federal financing costs for FY 82.

In order to determine the amount of federal financing costs that are attributable to the FY 82 portfolio expenditures throughout the life of the portfolio, we applied a projected interest rate on long-term debt (7.6%) to the projected average deficit for the period between 1982 and 1988 (17.4% of total budget outlays). This calculation resulted in a projected annual financing cost of 1.3% of total outlays.

D. ASSUMPTIONS RELATED TO OFFSETS TO FEDERAL COSTS1. Overall Collections Rate

We developed an overall collections rate using the Guarantee Agencies -- Claims and Collection Data Report prepared by ED. According to this report, guarantee agencies had collected approximately 21% of all defaulted claims paid as of September 30, 1982. We have assumed that 70% of these collections are remitted to the federal government by the guarantee agencies. Therefore, we assume that federal receipts from guarantee agency collections are equal to 15% of total defaulted claims paid.

2. Origination Fee Percentage

The origination fee is a prepaid finance charge that lenders are authorized to charge to the borrower at the time of disbursement. This fee (currently 5% of the principal disbursed) is retained by the lender and is subtracted from the interest subsidy and special allowance due to the lender for the quarter.

3. Percentage Distribution of Collections

In addition to developing an overall collections rate, we estimated the percentage of these collections that will re-enter repayment during each of the first 5 years following the default. We assume that most collections will re-enter repayment during the first 3 years after default. Our assumptions are as follows:

- 35% of all collections will re-enter repayment within 1 year after default.
- 65% of all collections will re-enter repayment within 2 years after default.
- 85% of all collections will re-enter repayment within 3 years after default.
- 95% of all collections will re-enter repayment within 4 years after default.
- 100% of all collections will re-enter repayment within 5 years after default.

We assumed an average repayment period of 5 years for collections on defaulted loans. Exhibit A-6 presents the percentage of total collections remitted to the federal government in each fiscal year.

Exhibits to Appendix A

Exhibit A-1

1982 NEW LOAN VOLUME BY INTEREST RATE^{a/}
(in thousands of dollars)

7% GSL (including 7% FISL)	\$3,660,284
9% GSL (including 9% FISL)	2,440,189
14% PLUS	<u>94,583</u>
TOTAL FY 82 NEW LOAN VOLUME	<u><u>\$6,195,056</u></u>

^{a/} Figures were developed using a sample of Lender's Request for Interest and Special Allowance reports submitted to the U.S. Department of Education (for the period ending 9/30/82).

Exhibit A-2

FY 82 DISBURSEMENTS BY QUARTER^{a/}

<u>Quarter Ended</u>	<u>Disbursements (in thousands)</u>	<u>%</u>
December 31, 1981	\$1,511,043	24.8
March 31, 1982	676,273	11.1
June 30, 1982	828,558	13.6
September 30, 1982	<u>3,084,599</u>	<u>50.6</u>
TOTAL FY 82	<u>\$6,100,473</u>	<u>100.0%</u>

Source: Loan Volume Update, prepared by U.S. Department of Education, Office of Student Financial Assistance (November 1982).

^{a/} Figures presented do not include PLUS disbursement data.

Exhibit A-3

PERCENTAGE DISTRIBUTION OF CLAIMS FILED^{a/}

<u>Fiscal Year</u>	<u>Age of Portfolio (in years)</u>	<u>Annual Percentage Distribution of Claims Filed</u>
FY 82	0	0%
FY 83	1	12%
FY 84	2	40%
FY 85	3	16%
FY 86	4	9%
FY 87	5	6%
FY 88	6	4%
FY 89	7	4%
FY 90	8	3%
FY 91	9	3%
FY 92	10	1%
FY 93	11	1%
FY 94	12	1%
FY 95	13	0%
FY 96	14	0%

^{a/} Figures were developed using a sample of Lender's Request for Reinsurance reports (ED 1189-1) filed with the U.S. Department of Education.

Exhibit A-4

FY 82 ADMINISTRATIVE COST ALLOWANCE (ACA)BY TYPE OF ACTIVITY

(in thousands of dollars)

<u>Activity</u>	<u>ACA (\$)</u>	<u>%</u>
Preclaims and Monitoring	\$32,456,362	29.2%
Monitoring	2,109,478	1.9%
Lender Promotion	14,734,487	13.3%
Other	<u>61,878,037</u>	<u>55.6%</u>
TOTAL FY 82 ACA	<u>\$101,178,364</u>	<u>100.0%</u>
ACA spent on <u>OLD</u> loans:	29%	
ACA spent on <u>ALL</u> loans:	71%	

Source: Guarantee Agency Quarterly Reports (9/30/82).

Exhibit A-6

PERCENTAGE DISTRIBUTION OF COLLECTIONS

<u>Fiscal Year</u>	<u>% of Total Collections on Defaulted Loans a/</u>
FY 82	0%
FY 83	1%
FY 84	4%
FY 85	8%
FY 86	12%
FY 87	14%
FY 88	15%
FY 89	13%
FY 90	10%
FY 91	7%
FY 92	5%
FY 93	3%
FY 94	3%
FY 95	2%
FY 96	1%
FY 97	1% b/
FY 98	1% b/

a/ Figures were developed from data collected in interviews with representatives from the U.S. Department of Education and various Guarantee Agencies.

b/ The automated model shows collections for these years in FY 96.

Appendix B

FEDERAL COST MODEL DESCRIPTIONS

Appendix B

FEDERAL COST MODEL DESCRIPTIONS

Based upon our assumptions and the cost allocation methodology described in Appendix A, we developed four automated models to calculate total federal program costs. These models include:

- A 7% Loan Model;
- A 9% Loan Model;
- A 14% Loan Model; and
- A final Costs Model.

The first three models operate in a similar manner. They are described below.

The 7%, 9%, and 14% Loan Models. These models are designed to calculate the total net cash flow for the FY 82 loan portfolio. The models calculate the net cash flow for each year in the life of the portfolio, and the total net cash flow for this same period.

The inputs to these models include the following:

- Initial loan volume, FY 82;
- Disbursement % by quarter;
- Cancellation %;
- Long-term inflation rate;
- Overall claim rate;
- Overall default rate;
- Overall collections rate;
- % of program in FISL loans (7% and 9% models only);
- Federal reinsurance premium received (14% model only);
- Origination fee % (7% and 9% models only);
- Administrative cost allowance rate;
- Program administration and overhead rate;
- Treasury bill rates;
- % distribution of claims;
- Reinsurance rates;
- % distribution of collections;
- Percent of period in interim status (7% and 9% models only); and
- Percent of period in repayment status.

Using these inputs, the models calculate a repayment schedule and, based upon cancellations and claims, develop a portfolio amortization table. The portfolio amortization table shows the annual declining principal balance of the FY 82 loan portfolio.

The models then calculate total cash flows for each cost category. Costs are presented for each fiscal year in the life of the loan portfolio. The cost categories and cost offsets used by the models are as follows:

- Interest subsidy;
- Special allowance;
- Reinsurance claims;
- Administrative cost allowance;
- Administration and overhead;
- Tax-exempt subsidy;
- Collections;
- Origination fee;
- Federal insurance premium; and
- Special allowance offset.

The Final Costs Model. The Final Costs Model calculates the total federal program costs using the results from the 7%, 9% and 14% Loan Models. In addition to the annual cash flows from the 7%, 9%, and 14% models, inputs to this model include the applicable discount rate and the quarterly disbursements of federal advances. This model also calculates the federal financing costs for each fiscal year in the life of the portfolio. This model presents the total cash flow for each fiscal year as well as the discounted cash flow.

* * * *

Each of the models are described in more detail below.

7% AND 9% LOAN MODELS

The user enters the following information into the model:

- Initial Loan Volume: The dollar value of loans guaranteed at 7% or 9% in fiscal year 1982.
- Disbursement % By Quarter: The percentage amount of the initial loan volume to be disbursed in each quarter of fiscal year 1982.
- Cancellation %: The rate of loan cancellation, as a percentage of loans disbursed.
- Long Term Inflation Rate: The predicted long term inflation rate.
- Overall Claim Rate: Claims filed for default, death, disability and bankruptcy, as a percentage of initial loan volume.
- Overall Default Rate: The default rate, as a percentage of initial loan volume.
- Overall Collection Rate: The rate of collections, as a percentage of defaulted loans.
- % of Program in FISL Loans: FISL loan volume as a percentage of total loan volume.

- Origination Fee %: The percentage of the loan amount charged to the borrower as an origination fee.

- Administrative Cost Allowance
 - Interim Loans: The allocation of administrative cost allowance, in dollars per \$1,000 of loans outstanding, to loans that are currently in in-school or grace period status.

 - In-Repayment Loans: The allocation of administrative cost allowance, in dollars per \$1,000 of loans outstanding to loans that are in repayment status.

- Program Administration and Overhead: The allocation of program administration and overhead expenses, expressed in dollars per \$1,000 of loans outstanding.

- T-Bill Rates: The actual or predicted rates of 91-day Treasury bills for each period in the model. (Rates are entered by quarter for the first four quarters of fiscal year 1982, and rates are entered by year for fiscal years 1983 through 1996.)

- % Distribution of Claims: The percentage distribution of claims as they occur by period.

- Reinsurance Rates: The average federal reinsurance rates for each period.

- % Distribution of Collections: The percentage distribution of collections as they occur by period.

- Percent of Period in Interim Status: The percent of each period that the portfolio is in in-school or grace period status. The average length of the interim period can be derived from this matrix.

- Percent of Period in Repayment Status: The percent of each period that a loan is in repayment status. The average length of the repayment period can be derived from this matrix.

The model calculates a portfolio amortization table that displays the following information.

- Initial Principal Balance: The initial loan volume by period.
- Cancellations: Loan cancellations by period.
- Net Disbursements: Loan disbursements for the period. This amount is equal to the initial principal balance less cancellations for the period.
- Cumulative Balance Outstanding: The total balance of loans outstanding for fiscal year 1982.
- Claims: The dollar volume of claims by period.
- Payments on Principal: The portion of borrower payments that can be applied to the principal balance.
- Net Principal Balance: The outstanding principal balance of the FY 82 portfolio after application of payments and claims.

The model calculates the following federal program costs:

- Interest Subsidy: The amount of interest subsidy payments to lenders during the in-school loan period.

- Special Allowance: The amount of special allowance payments to lenders.
- Reinsurance Claims: The amount of reinsurance payments paid as a result of default, death, disability and bankruptcy claims.
- Administrative Cost Allowance: The amount of administrative cost allowance payments that can be attributed to loans disbursed in fiscal year 1982. Administrative cost allowance payments are based upon the status of loans outstanding and the applicable estimated administrative cost allowance rate.
- Administration and Overhead: The amount of administration and overhead expenses that can be attributed to loans disbursed in FY 82, inflated by period at the long-term inflation rate. Administration and overhead expenses are based upon the net principal balance and the estimated administration and overhead rate.
- Tax Exempt Subsidy: The revenue lost by the federal government as a result of the tax-exemption of interest on student loan bonds.
- Collections: The amount collected on defaulted loans.
- Origination Fee: The amount collected from the borrowers as an origination fee.
- Federal Insurance Premium: The amount collected as an insurance premium against default from borrowers participating in the Federally Insured Student Loan program.

- Special Allowance Offset:

The reduction in the special allowance payments to lenders issuing tax-exempt student loan bonds.

- Net Cash Flow:

The total value of all cash outflows and inflows by period.

METHOD OF CALCULATION--7% AND 9% LOANS

<u>Initial Principal Balance:</u>	For FY 82--(Initial Loan Volume) x (Disbursement % by Quarter)/100
	For FY 83 through FY 96--Previous period Net Principal Balance
<u>Cancellations:</u>	For FY 82 only--(Cancellation Rate/100) x (Initial Principal Balance)
<u>Net Disbursements:</u>	For FY 82 only--(Initial Principal Balance) - (Cancellations)
<u>Cumulative Balance Outstanding:</u>	For FY 82 only--(Previous Cumulative Balance Outstanding) + (Net Disbursements)
<u>Claims:</u>	(Initial Loan Volume) x (Overall Claim Rate/100) x (% Distribution of Claims/100)
<u>Payments on Principal:</u>	Sum of quarterly calculations that compute a payment schedule based on the repayment period remaining, accrued interest at 7 or 9%, and the previous net principal balance. By computing a new payment schedule each year, the model can reduce the annual payments to account for lost payments due to claims filed in previous years.
<u>Net Principal Balance (Fiscal Year 1982):</u>	(Cumulative Balance Outstanding) - (Claims)
<u>Net Principal Balance (FY 83 through FY 96):</u>	(Initial Principal Balance) - (Claims) - (Payments on Principal)
<u>Special Allowance (Fiscal Year 1982):</u>	(Coupon Equivalent Rate - Special Allowance Factor*)/100 x (Net Principal Balance)/4

* Special Allowance Factor = 3.5 for 7% loans; 5.5 for 9% loans

Special Allowance
(FY 83 through
FY 96):

(Average Principal Balance*) x
[(Coupon Equivalent Rate) - (Special
Allowance Factor**)]/100

Reinsurance Claims:

(Claims) x (Reinsurance Rates)/(100)

Administrative Cost
Allowance (Fiscal
Year 1982):

(SA+TB) N/1,000
Where S = Percent of Period in
Interim Status/100
A = ACA Cost Per \$1,000, Interim
Loans
B = ACA Cost Per \$1,000, In-
Repayment Loans
T = Percent of Period in
Repayment Status/100
N = Net Disbursements

Administrative Cost
Allowance (FY 83
through FY 96):

(SA+TB) N/1,000
Where S = Percent of period in Interim
Status/100
A = ACA Cost Per \$1,000, Interim
Loans
B = ACA Cost Per \$1,000, In-
Repayment Loans
T = Percent of Period in Repay-
ment Status/100
N = Net Principal Balance

Administration and
Overhead (Fiscal
Year 1982)***

(Net Disbursements) x (Administration
and Overhead Cost Per \$1,000)/1,000

Administration and
Overhead (FY 83
through FY 96)***

(Net Principal Balance) x (Administra-
tion and Overhead Cost Per \$1,000)/
1,000

* Average Principal Balance = [(Initial Principal Balance) +
(Net Principal Balance)]/2

** Special Allowance Factor = 3.5 for 7% loans; 5.5 for 9% loans

*** Administration and Overhead amounts are inflated by period at
the long term inflation rate.

Tax-Exempt Subsidy
(Fiscal Year 1982):

$(.07) \times (.03) \times (\text{Net Principal Balance})/4$

Tax-Exempt Subsidy
FY 83 through FY 96:

$(.07) \times (.03) \times (\text{Average Principal Balance})$

Collections:

$(\text{Initial Loan Volume}) \times (\text{Overall Default Rate}/100) \times (\text{Overall Collection Rate}/100) \times (\% \text{ Distribution of Collections}/100)$

Origination Fee

$(\text{Net Disbursements}) \times (\text{Origination Fee } \%/100)$

Federal Insurance
Premium:

$(\% \text{ of Program in FISL Loans}/100) \times (\text{Net Principal Balance}) \times (.0025) \times (\text{Number of Years in School} - 1/12 + 6/12)$

Special Allowance:
Offset:

$(.07) \times (\text{Special Allowance})/2$

Net Cash Flow:

$(\text{Total Inflows}) - (\text{Total Outflows})$

THE PLUS LOAN MODEL

The user enters the following information into the model:

- Initial Principal Balance: The dollar value of loans disbursed at 14% in fiscal year 1982.
- Disbursement % By Quarter: The percentage amount of the initial loan volume to be disbursed in each quarter of fiscal year 1982.
- Cancellation %: The rate of loan cancellation, as a percentage of loans disbursed.
- Long Term Inflation Rate: The predicted long term inflation rate.
- Overall Claim Rate: Claims filed for default, death, disability, and bankruptcy, as a percentage of initial loan volume.
- Overall Default Rate: The default rate, as a percentage of initial loan volume.
- Overall Collection Rate: The rate of collections, as a percentage of defaulted loans.
- % of Program in FISL Loans: FISL loan volume as a percentage of total loan volume.
- Federal Insurance Premium Recieved: Amount of Federal Insurance premiums received by quarter for fiscal year 1982.
- Administrative Cost Allowance: The allocation of administrative cost allowance, in dollars per \$1,000 of loans outstanding, to loans that were made in 1982.

- Program Administration and Overhead: The allocation of program administration and overhead expenses, expressed in dollars per \$1,000 of loans outstanding.
- T-Bill Rates: The actual or predicted rates of 91-day Treasury bills for each period in the model. (Rates are entered by quarter for the first four quarters of fiscal year 1982, and rates are entered by year for fiscal years 1983 through 1996.)
- % Distribution of Claims: The percentage distribution of claims as they occur by period.
- Reinsurance Rates: The average federal reinsurance rates for each period.
- % Distribution of Collections: The percentage distribution of collections as they occur by period.
- Percent of Period in Repayment Status: The percent of each period that the portfolio is in repayment status. The average length of the repayment period can be derived from this matrix.

The model calculates a portfolio amortization table that displays the following information:

- Initial Principal Balance: The initial loan volume by period.
- Cancellations: Loan cancellations by period.
- Net Disbursements: Loan disbursements for the period. This amount is equal to the initial principal balance less cancellations for the period.

- Cumulative Balance Outstanding: The total balance of loans outstanding for fiscal year 1982.
- Claims: The volume of claims by period.
- Payments on Principal: The portion of borrower payments that can be applied to the principal balance.
- Net Principal Balance The outstanding principal balance of the FY 82 portfolio after application of payments and claims.

The model calculates the following federal program costs:

- Special Allowance: The amount of special allowance payments to lenders.
- Reinsurance Claims: The amount of reinsurance payments paid as a result of default, death, disability and bankruptcy claims.
- Administrative Cost Allowance: The amount of administrative cost allowance payments that can be attributed to loans disbursed in fiscal year 1982. Administrative cost allowance payments are based upon the applicable estimated administrative cost allowance rate.
- Administration and Overhead: The amount of administration and overhead expenses that can be attributed to loans disbursed in FY 82, inflated by period at the long term inflation rate. Administration and overhead expenses are based upon the net principal balance and the estimated administration and overhead rate.

- Tax-Exempt Subsidy: The revenue lost by the federal government as a result of the tax-exemption of interest on student loan bonds.
- Collections: The amount collected on defaulted loans.
- Federal Insurance Premium: The amount collected as an insurance premium against default from borrowers participating in the Federally Insured PLUS Loan program.
- Special Allowance Offset: The reduction in the special allowance payments to lenders issuing tax-exempt student loan bonds.
- Net Cash Flow: The total value of all cash outflows and inflows by period.

METHOD OF CALCULATION -- PLUS LOANS

<u>Initial Principal Balance:</u>	For FY 82--(Initial Loan Volume) x (Disbursement % by Quarter)/100
	For FY 83 through FY 96--Previous period Net Principal Balance
<u>Cancellations:</u>	For FY 82 only--(Cancellation Rate/100) x (Initial Principal Balance)
<u>Net Disbursements:</u>	For FY 82 only--(Initial Principal Balance) - (Cancellations)
<u>Cumulative Balance Outstanding:</u>	For FY 82 only--(Previous Cumulative Balance Outstanding) + (Net Disbursements)
<u>Claims:</u>	(Initial Loan Volume) x (Overall Claim Rate/100) x (% Distribution of Claims/100)
<u>Payments on Principal:</u>	Sum of quarterly calculations that compute a payment schedule based on the repayment period remaining, accrued interest at 14%, and the previous net principal balance. By computing a new payment schedule each year, the model can reduce the annual payments to account for lost payments due to claims filed in previous years.
<u>Net Principal Balance (Fiscal Year 1982):</u>	(Cumulative Balance Outstanding) - (Claims) - (Payments on Principal)
<u>Net Principal Balance (FY 83 through FY 96):</u>	(Initial Principal Balance) - (Claims) - (Payments on Principal)
<u>Special Allowance (Fiscal Year 1982):</u>	(Coupon Equivalent Rate - 10.5*)/100 x (Average Principal Balance**)/4

* If (Coupon Equivalent Rate -10.5) is less than 0, no Special Allowance is paid to lenders.

** Average Principal Balance = [(Initial Principal Balance) + (Net Principal Balance)]/2.

<u>Reinsurance Claims:</u>	$(\text{Claims}) \times (\text{Reinsurance Rates})/100$
<u>Administrative Cost Allowance (Fiscal Year 1982):</u>	$(\text{Net Principal Balance}) \times (\text{ACA Cost Per } \$1,000)/1,000/4$
<u>Administrative Cost Allowance (FY 83 through FY 96):</u>	$(\text{Net Principal Balance}) \times (\text{ACA Cost Per } \$1,000)/1,000$
<u>Administration and Overhead (Fiscal Year 1982)*</u>	$(\text{Net Principal Balance}) \times (\text{Administration and Overhead Cost Per } \$1,000)/1,000/4$
<u>Administration and Overhead (FY 83 through FY 96)*</u>	$(\text{Net Principal Balance}) \times (\text{Administration and Overhead Cost Per } \$1,000)/1,000$
<u>Tax Exempt Subsidy (Fiscal Year 1982):</u>	$(\text{Average Principal Balance}) \times (.07) \times (.03)/4$
<u>Tax Exempt Subsidy (FY 83 through FY 96):</u>	$(\text{Average Principal Balance}) \times (.07) \times (.03)$
<u>Collections:</u>	$(\text{Initial Loan Volume}) \times (\text{Overall Default Rate}/100) \times (\text{Overall Collections Rate}/100) \times (\% \text{ Distribution of Collections}/100)$
<u>Federal Insurance Premium:</u>	$(\text{Federal Insurance Premium Received})$
<u>Special Allowance Offset:</u>	$(.07) \times (\text{Special Allowance})/2$
<u>Net Cash Flow:</u>	$(\text{Total Inflows}) - (\text{Total Outflows})$

* Administration and Overhead amounts are inflated by period at the long-term inflation rate.

THE FINAL COSTS MODEL

The user enters the following information into the model:

- Discount Rate: Applicable discount rate.
- Advances Disbursed
Fiscal Year 1982: Federal advances disbursed by quarter to state guarantee agencies, in thousands.
- Net Cash Flow: Applicable cash flows, as calculated in other models.

The model calculates and displays the following information:

- Federal Financing
Costs: The interest costs associated with the debt financing portion of the Federal GSL program budget.
 - Aggregate Cash Flow: Total cash flow by period.
 - Discounted Cash Flow: Total cash flow by period, discounted to the beginning of fiscal year 1982.
 - Total Cash Flow: Summary of cash flows, with no discount rate applied, depicting total government outlays in dollars.
- Total Cash Flow: Summary of discounted cash flows, depicting total government outlays in today's dollars.

Appendix C

BIBLIOGRAPHY

Appendix C

BIBLIOGRAPHY

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